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Agricultural Resources of Georgia.

By R. T. Nesbitt, Commissioner of Agriculture of Georgia.

[From *The Southern States Magazine* for March.]

Georgia is essentially an agricultural State, but in the abundance of her resources she may also be called a variety State, and, quoting from the *Encyclopedia Britannica*, "Texas possibly excepted, no Southern State has a greater future than Georgia." Since this assertion was made our material progress has more than verified its correctness, and in the march of progress Georgia has more than kept pace with her sister States. It is not our purpose, however, to make this article one of comparisons, nor is it within its scope to consider generally the resources of the State, but rather to confine it to the agricultural interest, its progress and possibilities.

Aside from the soil and climate, the quantity and quality of labor has the greatest influence in shaping the agricultural policy of a country and in governing the selection of crops. This being the case, Georgia, in common with other Southern States, has by the conditions of her labor system been driven into the cultivation of large field crops, and more especially the great staple crop, cotton. When the slave became a freedman no radical change could be immediately effected by reason of large land ownership and because of his previous training. The excellent plowman or hoehand became an agricultural butcher when placed in the vineyard or orchard, and the rice-field darkey was found utterly inadequate to the duties of a truck farm. The landowner himself was a novice when it came to horticulture for profit or illustrating the principles of "ten acres enough."

Therefore, in viewing the agricultural development of the State as contrasted with the development of manufactures, railroads, etc., these facts should be considered. It should also be borne in mind that artificial agricultural progress is rare and of slow growth. With the farmer changes are not the work of a day, old methods being discarded with every recurring season and new ones adopted. In the agricultural world there are no booms, but a natural steady growth. Experiment must precede development, and not merely experiment, but demonstration. Once the demonstration is made and adopted progress becomes sure and rapid. Viewed in this light, Georgia agriculture has not lagged, and we are now beginning to feel the impetus which improved methods, the result of some bitter experiments, are throwing into every artery of trade. Intense and diversified farming is becoming more and more popular as experience proves its wisdom. This much by way of premise in order to call attention to the circumstances surrounding Southern agriculture, and under which its advancement has taken place.

To consider Georgia immediately from an agricultural standpoint let us first inquire into the quality and character of the soil. To ascertain this the scientific investigator turns to the geology of the State and finds formations represented which embrace:

1. The Metamorphic of middle and northern Georgia.
2. The Paleozoic of northwest Georgia.
3. The Cretaceous, lying south and east

of Columbus on the western boundary of the State.

4. The Tertiary and Quarternary of southern Georgia.

The variety of soil that must accompany the disintegration of these formations is shown to the popular mind in the red and brown loams, gray-gravelly lands, sandy lands and flatwoods of extreme northwest Georgia; the red-clay lands and gray sandy lands of middle and northeast Georgia; the red-clay lands (marl beds); the sandy lands of middle and southern Georgia and the savannahs and palmetto flats of the coast.

Climate is the controlling condition in the growth of natural and cultivated vegetation, and it can be better understood and more intelligently dealt with in connection with the soil than apart from it. It is doubtful if there is any State in the Union which presents a greater variety of climate than Georgia. In the extreme southern portion of the State we have a sub-tropical climate; in the north a decade scarcely passes without a snowfall of from twelve to eighteen inches, while in middle Georgia we have all the variations which these two extremes imply. For every 300 feet of elevation there is a fall of one degree in temperature; this cause would make a change in Georgia of about sixteen degrees. The annual mean for the State is 65.1 degrees, the summer mean 79.7 degrees, the winter mean about 50.1 degrees.

The mean temperature of Atlanta corresponds with that of Washington (D. C.), Louisville and St. Louis. The extremes are seldom as great as in the Northern cities, sunstrokes being far less frequent. The range of choice in climate is wide, from the exhilarating atmosphere of the mountains to the somewhat enervating summer climate of the south, which is modified, however, by the sea-breezes. It is readily seen that with a soil and climate so varied, it is difficult to present concisely the agricultural conditions of the State.

In order that a better view of the present production and future capabilities of the soil may be obtained, we will adopt the methods of the Department of Agriculture and divide the State into sections with reference to soil and climate.

The varieties of soil in northwest Georgia are greater than in any other portion, and perhaps the richest uplands in the State are the brown and red loams of this section. These loams differ greatly in appearance, but in adaptation to vegetation and productiveness are much the same. Lands of this character which have been in cultivation for years produce from thirty to forty bushels of corn to the acre, and when properly rotated, that is, where leguminous crops precede it, a yield of from ten to twenty bushels of wheat per acre is not hard to obtain. It is only in the last twenty-five years that cotton as a crop has been planted in this portion of the State, and north of Floyd county it is seldom attempted even now. In that county and farther south the usual yield is about 600 pounds of cottonseed per acre. Further divisions of these lands might be made for those who desire to study more minutely their character, but this is beyond the limits of the present article. It would be well to say, however, that the drainage of these lands is almost perfect, and that they are susceptible of very high culture.

The forest growth is red, white and Spanish oak, hickory, dogwood, chestnut and pine; the agricultural products are corn, oats, wheat, clover, grasses and cotton. The gray gravelly lands of the ridges have never been highly regarded, but they have been found to be profitable for cotton, easy to cultivate, and give a fine return upon the value at which they are held. On these the production of cotton with fertilizers is about 1200 pounds per acre. All of these lands are exceptionally fine for fruit culture, the ridges being exempt from the frosts, which destroy the fruits on the low lands. The lands of the flatwoods of this section are not held in very high esteem, but where the streams leave the mountains and flow through the valleys very rich bottom lands are found, varying in width from one-eighth of a mile to two miles. Here the grasses are at home, and corn produces from forty to seventy-five bushels per acre. In these bottoms cotton does not succeed well, except on alluvial lands with a large proportion of sand.

The lands in northeast Georgia are very similar to those of middle Georgia, though their adaptability to vegetation is different on account of the difference in temperature. The red lands of this section are especially fine for small grain and grasses, and are usually devoted to these crops. The gray sandy and gravelly lands are of much larger extent, and, while cotton on these lands is usually late in maturing, it produces more and the plant seems better able to withstand the drought. In the extreme northern portion of this section little cotton is planted. Of the usual field crops the yield under fair conditions is: Corn, twenty bushels; wheat, fifteen; oats, twenty-five; barley, twenty-five; hay, two to three tons; sorghum syrup, seventy-five gallons. The fruits adapted to this section are pears, apples, peaches, grapes, cherries, strawberries, gooseberries, raspberries.

The settlement of middle Georgia followed immediately upon the coast settlements, and here, therefore, the lands are more worn. Under a system of clean culture without renovation, pursued year after year, the lands of this section were greatly depleted; but new methods are being adopted and waste places are being built up. The chief products of this section are cotton, corn, oats, wheat and all the grains and grasses. Tobacco is also grown. The land yields readily to fertilization, and under proper methods the renovation is rapid and thorough. In this section the peach is grown to perfection and yields a handsome profit. The trees rapidly reach a bearing state, and new orchards can easily be brought in when the old ones become unprofitable. The development of the fruit industry of this section has been remarkable, and in season there is hardly a market throughout the country without peaches from middle Georgia. The watermelon, strawberries, grapes and all other fruits do well here, and pleasant and profitable employment with a healthful home are offered to the agriculturist and horticulturist.

We will not attempt to present the different characteristics of the several distinct localities of southern Georgia, but only call attention to very marked features. It is here we have the long-leaf pine and wiregrass region, with its immense resources of

lumber and turpentine. In this division there are about eighteen whole counties, with portions of others. Agriculturally these lands have not heretofore been much considered, and farm labor, owing to the fact that the lumber and turpentine interests offered so much higher wages, has been hard to obtain. Within the last few years more attention has been paid to agriculture, and the results under systematic and intelligent culture have been remarkable. To those unfamiliar with the wire-grass, which gives its name to this section, it appears perfectly worthless, but when the old stubble is burned off and the new grass shoots up all kinds of stock thrive and do well on it. I doubt whether a place is to be found where sheep can be more profitably kept, and there are flocks roaming through this region that are numbered by thousands. Those in a position to know have calculated the cost of keeping them as low as fourteen cents a head.

Around Savannah in southeast Georgia is the great trucking district of the State, having immense advantages over Florida and many other trucking districts, and destined at no distant day to become the centre of the South Atlantic trucking industry. Around Thomasville and Albany we have the home of the famous Le Conte pear, thousands of which are shipped to different markets.

It is evident from what has already been said that aside from the great money crop, there are other crops which can be easily raised on Georgia soil, and there are many farmers looking to melons, fruits and vegetables for their profits. It may also be mentioned that there is in the southwestern portion of the State an area now profitably devoted to tobacco culture. No accurate information as to the value of these crops is at our command, but their aggregate value is several millions of dollars.

The values of the standard crops as published in the United States census reports for 1890 are:

Cotton, 1,191,919 bales, valued at \$50,000,000.

Corn, 37,829,000 bushels, valued at \$26,102,071.

Wheat, 2,323,000 bushels, valued at \$2,555,380.

The usual combined value of these principal crops is about \$79,000,000.

Georgia is the third State in the production of cotton, second in the production of rice, first in the production of watermelons. It has the largest area of any State adapted to long-staple cotton, on which large profits are realized. The present production is about 18,000 bales and it is increasing each year, and the possibilities in the development of this resource are immense. I have before me a letter from one of the largest melon-growers in Georgia. He says: "The melon acreage in southern and middle Georgia last year was about 28,540 acres, cultivated by 987 farmers, and this crop netted the farmers, as near as I can estimate, about \$489,000, while it paid to the railroads in gross revenue about \$1,000,000." On Georgia soil the melon has attained its highest perfection, and in season it finds its way into the markets of nearly every city in the Union. The following gives some idea of the peach industry and its value: "The Fort Valley region in Georgia was, up to a few years ago, given up to cotton

farming. If the cotton farmers there had been told that they could do better raising peaches, and that their worn-out lands would soon become famous and worth perhaps a thousand dollars an acre for the cultivation of that familiar but neglected fruit, they would probably have smiled at the suggestion. Many of them, however, smile now every day because somebody did make the suggestion and they tried what virtue there was in it. Mr. Garlington states, with full knowledge of the facts, that an acre of peaches will yield \$300 net in a good year, and shows that at that rate one crop in seven years pays better than a cotton crop every year with cotton at ten cents a pound, and the chances are good for a peach crop one year in every three years."

From the foregoing, which is necessarily but a cursory view of the agricultural possibilities of Georgia, it will be seen that our State offers an inviting field to the careful, painstaking farmer. With a climate unsurpassed, a soil that responds readily to intelligent treatment and many other elements for building up happy homes, she opens her doors and asks the help of enlightened immigration in making her agriculturally second to no State in the Union.

Some Valuable Products from Sharks.

By C. B. Warrand.

When a shark is mentioned it generally causes a gruesome feeling of terror, as the popular fancy of the average landsman pictures the shark exclusively as a man-eater whose daily fare consists of drowned sailors with an occasional change to a careless bather, while in fact by far the largest proportion of sharks found on the South Atlantic coast of the United States are entirely too small to be dangerous, and their attacking and devouring a human being is an almost physical impossibility.

The commercial value of the products from a shark is much greater than the majority of fishes caught, as every part of the shark can be utilized and sold to great advantage. Hundreds of vessels and crews could find a highly remunerative employment in shark fishing along the coast of Georgia, Florida and South Carolina during the summer months; especially vessels employed in the oyster trade during the winter months would find this a lucrative employment during the dull season and are well fitted for the purpose.

The skin of the shark is not covered by scales, but has the appearance of coarse emery paper. When properly tanned and curried it is one of the very best of fancy leathers, and is known as fish chagrine. Besides the great beauty and extreme fineness of the grain, shark leather is very strong, supple and lasting. Shark-skins properly salted or sun-dried will readily sell at from \$12.00 to \$30.00 per dozen, and can be sold in unlimited quantities.

The untanned shark-skin is also used for polishing steel and other hard metals, and the polish thus obtained cannot be surpassed or even equalled by other means.

The liver of the shark is one mass of oil, and ten to twenty gallons of an excellent train oil are often obtained from a single set. The oil is rendered in open cast-iron kettles, and the cracklings, which separate easily, have a commercial value for soap-making or fertilizers.

The flesh or meat is beautifully white and of even grain. It is edible and perfectly wholesome, and, as it is free from fish oil, its taste is equal to codfish or halibut; the shark name alone is the obstacle to its bringing high prices. It can be salted, sun-dried or smoked and is a good keeper in all climates. If placed on the market *incognito* it would no doubt sell quickly and readily on account of its cheapness, and the poorer classes of the people would obtain a reasonable and healthy food.

The fins, salted and sun-dried, are ranked by the Chinese as a great delicacy, and

wherever Chinamen can be found, dry-salted shark-fins will readily and quickly bring ten cents per pound. The stomach, when neatly washed out, scraped and sun-dried, commands good prices, and is used as a substitute for "Hausenblase" in making jellies, fine glue, etc.

The shark has a triple row of formidable teeth which are pure ivory and exquisitely white. Some of the prettiest and best are mounted in gold setting for jewelry, and the inferior teeth are still worth a dollar or two per pound for the manufacture of ivory black, the best and most expensive black paint. All offal and trimmings from the shark are worth \$10.00 to \$12.00 per ton for fertilizing purposes.

The sharks caught on the Southern coast will vary from seven to twelve feet in length and weigh from 150 pounds to 500 pounds. The quickest and easiest way to fish for them is with hook and line attached to an anchored buoy. The hook employed is made from $\frac{3}{4}$ -inch steel and is three or four inches across the bend. The shank is ten or twelve inches long and is fastened by a swivel to five or six feet of strong chain. An empty whiskey or kerosene barrel will answer well for a buoy, and will hold the largest shark. The anchor can consist of some cheap cast iron, such as old grate bars. Shark meat, fish or refuse meat of any kind will answer for bait.

The shark when caught will first try to cut the rope holding him, but will only be able to reach the chain; then he will try to spin round and round in his vain efforts to get free, but the swivel will render such efforts useless; then the shark will slacken up on the line and suddenly dart away, but the only effect this attempt will have will be to sink the buoy temporarily, as it only offers a yielding resistance. When the vessel is brought alongside the buoy the line is hauled in and fastened to a block and tackle. When the shark has been drawn alongside it is dispatched by a few blows on the head while it is still in the water. It is a game fish, and will fight to the last, giving plenty of sport to those who may enjoy it.

One vessel and crew can easily attend to twenty or twenty-five such buoys, and each can have one or more hooks and lines. It will be a question of how many sharks a crew can take care of, and not how many they can catch, as the fish has a very keen scent and can smell or taste the bait a long distance off.

If it is considered that the commercial value of the products from a shark amount to from \$5.00 to \$15.00; that they can be easily and cheaply caught; that the shark is a migratory fish and the supply cannot be exhausted, it seems strange that this industry has not been established long ago.

Savannah, Ga.

A Proposed Land and Mortgage Company in New Orleans.

A number of prominent bankers and business men of New Orleans met last week for the purpose of organizing a land and mortgage company to buy and sell Louisiana lands, to induce immigrants to come to the State for the purpose of buying the lands of the company, and to sell the lands on such long terms as may reasonably insure the prompt payment of the purchase money. The proposal is to make the capital stock \$500,000, to be taken by fifty shareholders, each of whom will take \$10,000 of the stock, paying \$1000 in cash and \$9000 in notes of \$1000 each, one of which will mature each year. It is proposed to secure as the Eastern agent of the company one of the best-known trust companies in New York or Boston, whose statements as to the character of the business of the local company as to its assets and management will be generally accepted by Eastern investors. The company will issue land bonds, well secured, also debenture

bonds, and sell 7 and 8 per cent. mortgage notes. For the first year the amount of business might be limited to \$100,000, too small to justify the issue of any bonds, yet the business during the second year of the organization of the company could be easily doubled, and increase at that rate annually thereafter, so that under the proposed plan property costing less than \$5,000,000 could be placed at more than \$10,000,000 within ten years.

The Coming Pavement-Brick.

Of late years there has been an unusual amount of interest displayed in the matter of brick pavements in streets. The many advantages which this form of street covering possesses have commended its use in both large and small cities and towns, and wherever it has been tried it has proved so satisfactory that its further use has almost invariably followed.

The use of bricks for street-paving material is neither a novelty nor an experiment. For over one hundred years they have been in service on streets in Holland; for thirty and more years in towns in different parts of England, and in this country, at Charleston, W. Va., they have been used for eighteen years; in many other towns and cities for from five to fifteen years, and in a still greater number from one to five years.

It may be said that there are now five classes of street-paving material in use. These are the wooden block, the Belgian or granite block, sheet asphalt, asphalt blocks and bricks.

Regarding wooden blocks, it may be said that their use in the past has been so unsatisfactory that their use in new work has practically been abandoned. While they give the most noiseless and easiest-riding surface, at the same time forming a secure foothold for horses, and are comparatively inexpensive to lay, they have the disadvantage of being short-lived, thus causing continual expense in repairing, and, further, they are exceedingly unhealthy after having been in service but a short time.

The Belgian block or ordinary granite pavement is at present more extensively used, probably, than any other form of street pavement. It has the merit of being exceedingly durable, is cleanly, and consequently fulfills the sanitary requirement of healthfulness. It is, however, expensive to lay, and when repairs are necessary they are difficult and costly to make. A most serious objection to granite blocks is the fact that next to the old-fashioned cobblestone paving, there is no form of street covering which is more noisy. On streets where there is continual driving, particularly with heavy drays, the noise is so great that frequently it is almost impossible to carry on a conversation. While this may not actually interfere with business, it adds an item of discomfort which is highly objectionable.

Again, it is one of the most unsatisfactory pavements to ride over. The continual jolting and jarring is disagreeable to the occupant of a wagon or carriage, and what is of more immediate importance, it has a most injurious effect on the vehicle itself. It loosens bolts, strains every part of the wagon, causes loose parts to play upon each other, thus increasing wear, and it brings on the horse a series of jars and irregular strains which, while they may not have any immediate effect, are harmful in time. Still further, this form of paving is injurious to the horse's feet, and when worn smooth, as it invariably does after a time, it is slippery and gives but a poor foothold for heavy teaming. In some few places granite blocks may perform better service and more fully answer the requirements of unusually severe traffic than any other form of pavement, but such instances are exceptional.

Sheet-asphalt paving has the advantage of presenting a pleasant surface to ride over, of being noiseless and clean. The objection to it is that it does not stand heavy traffic, and after a few years of service will require frequent and expensive repairs. Further than this it is expensive to lay, and more so to maintain, with the additional objection that repairs are made with more or less difficulty, and interfere with traffic for a considerable time while the material is hardening. In wet weather it affords a poor foothold for horses. The same may be said of asphalt blocks, though, as a rule, they have greater wearing power than sheet asphalt. Indeed, it may be said that in the majority of cities where asphalt or asphalt blocks have been laid, the conclusion has been reached that while they present many advantages, they do not form a satisfactory and economical pavement after some years of service.

The paving which appears to meet the requirements of both light and heavy traffic, and at the same time is not unduly expensive, appears to be the vitrified paving brick now coming into general use. Its demerits may be summed up in the single statement that it is not so durable as granite blocks, but still its durability exceeds that of any of the other forms of paving named, and its other merits are so many that it unquestionably leads as a durable, economical and healthful pavement. Indeed, it may be said that it represents one of the most satisfactory forms of street paving now in use. It is comparatively noiseless, almost entirely so if covered with a thin coat of pitch; very durable if well laid and made of good material; cleanly, meeting in this respect all sanitary requirements; easy to repair, and costing only a moderate sum to construct.

To make a good brick pavement there are two matters to be given attention, viz., the foundation and the quality of bricks used. The former, no matter what it may be made of, must be solid and true to avoid danger of settling, washing out or retaining moisture, and the latter must have good wearing qualities and be of such shape as to give a good foothold for animals.

Both macadam and concrete foundations are in use in various places. The former has the advantage of being the cheaper of the two, and, where the condition of the underlying soil is such as to allow its use, it has been found as satisfactory as the more expensive concrete. The latter is, however, the safest of the two, and where it can be afforded should be used.

Regarding the brick itself, it must be uniform in texture and thoroughly burned or vitrified, so that it will not absorb water, but not so brittle as to crack or split from the blows of horses' hoofs or the shocks from heavily loaded drays. At the same time it must not be soft enough to crush or wear rapidly. There are many things to be considered in selecting a suitable brick, and too great care cannot be taken before deciding upon which shall be used. The appearance is never a safe guide by which to pass a final judgment, and this has been so clearly recognized that a series of exhaustive tests have been devised, and from them alone can a safe conclusion be reached as to whether or not any given brick is suitable for street-paving service. The results of these tests have been invaluable to city authorities in enabling them to specify exactly what they require, and little paving is now done in which all material used is not subjected to these tests.

It is largely due to this fact that brick paving has proven so satisfactory. The ease of making a rigid inspection of the material used, and the comparative ease with which the pavement may be laid, coupled with its comparative cheapness and the satisfactory results obtained from it, have together brought it into general notice, and it may not be saying too much to state that it will be the pavement of the future. It is now rapidly taking the place of granite and also, though more slowly, of asphalt.

A Bright Outlook in Texas.

(From our own Correspondent.)

DALLAS, TEXAS, March 21.

At the end of the first quarter of the year the outlook for Texas for 1893 is not only more promising than for any other year during the financial depression, but, strange to say, it is more encouraging than for a number of years back. The hard times from which Texas is just emerging have taught the people a wholesome lesson. They have abandoned booms and wild-cat schemes of all kinds incident to the first stages of the development of a new country, and betaken themselves to slower and less exciting, but more substantial, pursuits. Trade-endeavor clubs, having for their object the promotion and encouragement of manufacturing enterprises, have taken the place of real estate exchanges, and there is no longer any talk of suddenly growing rich.

The number of failures in the State for the quarter just closed is not only very much smaller than for some years past, but, according to the statement of one of the largest mercantile agencies doing business in the Texas district, there is a greater proportion of honest failures among the lot. The class of people who go into business for the purpose of robbing everybody confiding enough to give them a line of credit, and who have done so much to injure the State, are growing beautifully less all the time.

Texas has the largest acreage of wheat this year in her history. The winter has been most favorable to the young wheat, and pretty full reports from all points are to the effect that the promise for a heavy crop could not be more encouraging. It is only within the last half a dozen years that any serious effort has been made to grow wheat in Texas. Because wheat had never been grown here it seems to have been considered conclusive that the soil and climate were unsuited to its production. A few experiments proved the fallacy of this argument, and the acreage devoted to this cereal is being largely increased every year. But apart from the wheat crop, Texas has been undergoing a change agriculturally for several years. The tendency is in the direction of more diversified crops. Formerly cotton was the only crop the people raised. They took the cash they received for this and paid it out for what they ate and fed their teams. They are now beginning to see the folly of this one-crop theory, and to raise their own truck, corn and hogs, so that the proceeds of the cotton are largely profits for the year's work.

The manufacturers and jobbers report a fine business. All the factories in Dallas—and there are 181 of them—are running full time, and some of them double time, and still they have orders ahead. These people and their traveling men say that the towns throughout the State, as well as in Oklahoma and Indian Territory, are in the most prosperous condition in a period of ten years.

There are thirty-odd firms in Dallas handling farm machinery and implements and vehicles. The season is just opening with them, and they say that, judging from the inquiries to date, the outlook is in favor of even a larger business than they did last year, when they sold \$10,000,000 worth of machinery, Dallas being second only to Kansas City in the amount of agricultural machinery, etc., handled.

As to Dallas proper, the outlook is decidedly more cheerful than it was a year ago. At that time what were regarded as the solidest men and most substantial firms were failing on all hands, and the town was flat and apparently laid out for good, and people were leaving it in large numbers in search of work. Since then, however, many of the people have returned, business generally is getting on a better footing, and

the prospects of securing at an early date water rates, by reason of the navigation of the Trinity river, and of the completion to this point of the Rock Island and the Cotton Belt Railroads, have reassured the people. The Trinity River Navigation Co. last week purchased at New Orleans the passenger and freight steamer H. A. Harvey, Jr., at a cost of \$6000. The boat was taken via the gulf to Galveston and thence started up the Trinity river. There are two snagboats now at work, and the company expects to be able to run the H. A. Harvey, Jr., up to Dallas within two weeks, and after carrying a few cargoes of freight between Dallas and Galveston, to apply to the interstate commerce commission to authorize the railroads to meet the water rates to this point. Water rates once secured, the future of Dallas is believed to be

Texas has a rich soil and is wealthy in all sorts of resources, coupled with a most inviting climate, and there is nothing on earth holding her back but her demagogues, which she has galore. The prejudices naturally arising from the war cemented the voters of Texas into a body nominally Democratic. Our demagogues, taking advantage of this prejudice, have played it for all it is worth, and by having in their own hands the machinery of a party which was blindly submissive to everything the leaders said was proper and democratic, and which practically had no opposition, they have built up an office-holding class. The legislation of these demagogues has for several years been of the wildest and most erratic character and most prejudicial to the best interests of the State. They have no system about their politics. They are socialistic in one thing, populistic in another, republican in another. Until last year they had been allowed to run the State as they pleased; but their legislation was becoming so pernicious in its effects that the business classes undertook to oust the demagogues. They failed, after a desperate struggle, but the campaign taught the demagogues a wholesome lesson, and they have toned down considerably. While a great many bad bills have been presented in the present legislature, so far they have hung fire, and the opposition to them is so great that it is probable that none of them will become laws this session.

A great deal of capital desirous of investment in the State is watching the action of the legislature, and if that body adjourns without enacting any very hostile laws work will begin on several enterprises that are now in abeyance.

W. S. A.

Organization of a Rice-Mill Company at Crowley, La.

A well-attended meeting of the citizens of Crowley, La., was held on the 29th ult. for the purpose of discussing the charter and electing a board of directors and other officers of the Crowley Rice Mill Co., Limited. After some discussion the charter was adopted, the capital stock being placed at \$100,000, divided into shares of \$100 each. The company is authorized to commence business as soon as \$40,000 stock has been subscribed. Myron Abbott was chosen superintendent of the mill, and the following gentlemen elected as directors: Dr. J. F. Morris, Abram Kaplan, Dr. J. F. Nattall, Myron Abbott, W. W. Duson, Jack Frankel, John F. Shoemaker, Preston S. Lovell, W. H. Nicholson, George Hathaway, Silas Frickey, John P. Hoyt, Hiram W. Carver, W. E. Ellis and Rufus W. Banta. W. W. Duson was elected president; P. S. Lovell, vice-president; W. E. Ellis, treasurer, and L. S. Scott, secretary. An adjourned meeting was held on the following day to give the incorporators an opportunity to sign the charter. A subscription paper was circulated to which those present who had previously pledged their several amounts attached their names.

The amount of capital stock represented by the incorporators is \$28,000, while the stock pledged by other parties brings the amount up to about \$50,000. The soliciting of additional stock will be pushed as rapidly as possible, a committee for that purpose having been appointed. The mill will have a capacity of 1000 barrels per day, and will be in operation at the opening of another season. Those connected with this enterprise are all men of means, having good executive ability, and possess to a large extent the confidence of the public generally.

Florida's Mineral Exhibit for the World's Fair.

The exhibit of Florida minerals now in preparation for the World's Fair at Chicago promises to be one of a novel and most valuable character. Under the care of Mr. Solon B. Turman, manager of the exhibit, the arrangement will produce a most desirable effect. A case or cabinet has been built to receive the exhibit, which stands upon a platform 16½ by 21½ feet in size. It is seven feet in height, and in its outlines follows the shore and boundary lines of the State of Florida. At points relatively occupied by Pensacola bay and the mouth of the St. John's river are doors allowing entrance to and exit from the interior of the cabinet, where the manager of the exhibit will have his office, and where descriptive literature and maps of the mineral districts will be placed. On the outer side of the cabinet, about two feet from the platform, is a broad ledge, on which pebble phosphate and other minerals will be placed. Under this ledge will rise a wall of rock phosphate collected from different points of production. Above the ledge are three shelves which will hold several hundred glass jars in which various minerals, in both a crude and manufactured form, will be exhibited. The exhibits will be arranged by counties for competitive purposes, the best exhibits securing awards. The cabinet was constructed at the expense of Mr. Turman by the McNeill Novelty Works at Tampa, Fla., and the material used in its construction is a beautiful sample of Florida curly pine.

The Commerce of Jacksonville.

The imports for the month of March consisted of 383 tons of phosphate, 46,508 packages of merchandise, 7100 bales of hay, 6386 barrels of flour, 400 packages of hardware, 665 tons of fertilizer, 4112 barrels of sugar, 1062 bags of salt, 575 bags of fertilizer, one lot of orange-box stuff, 2222 boxes of bacon, 600 tons of railroad iron, 2555 tons of coal, 2625 barrels of oil, 286 kegs of nails, 703 barrels of potatoes, 106 tons of brimstone, 2900 barrels of fertilizer, eighteen bales of tobacco and 100 barrels cement. The exports consisted of 3,691,000 feet of lumber, 83,500 boxes of oranges, 111,000 crossties, 17,500 packages of merchandise, 9500 packages of vegetables, 352 tons of clay, 1750 bales of tobacco, 13,400 bundles of shingles, 250 barrels of naval stores and 500,000 shingles. The value of the foreign imports was \$15,918.42 and of exports \$14,021.92.

The Commerce of Fernandina.

During the month of March twenty-five vessels in the coastwise trade and two vessels in the foreign trade entered the port. The coastwise shipments of lumber were 3,235,199 feet and foreign shipments 1,025,605 feet. The foreign shipments of phosphate were 13,190 tons. The imports included 379 packages, 800 tons of coal and four general cargoes. The exports were 1,496 logs cedar, 659 cases of cedar, 880 cases of oysters, 297 sacks of phosphate, 366,200 shingles, 450 packages of merchandise, 730 barrels of rosin, 96 barrels of spirits, 196 barrels of cottonseed oil and 166 bales of cotton.

Savannah as a Tourist Resort.

By Col. I. W. Avery.

The Southern winter season of 1892-93 for Northern and Western tourists, valetudinarians and health and pleasure-seekers is drawing to a conclusion, and has tested the popularity and growing prestige of Savannah as a winter resort.

The year before it was estimated by those whose judgment is entitled to belief that fully 25,000 people visited the city. The same reliable judges calculate an increase of 5000 persons for this season over last, or an aggregate of 30,000 people this year. The railroads and hotels have been packed and overflowing, and there is a general satisfaction with pecuniary results, the practical test.

The good impression that Savannah has made has been strong and universal. The beauty, the delightful climate and general attractions have charmed all and created a desire and purpose to return. Savannah has learned a lesson that she will do well to utilize—that no money spent in affording convenience and comfort to people in getting here, and luxury and pleasure in staying here, is misspent.

The swift and luxurious passage here by rail and steamer, and the princely hotel accommodations of the city, ensure a swelling tide of Northern and Western visitors able to pay for the good things of travel and the best resorts. Too much cannot be done to please these folks.

Savannah is right on the way to Florida. Her accessibility is remarkable. Four lines of magnificent ocean steamships come and go to Baltimore, Philadelphia, New York and Boston, while a host of the best railway lines run out north, northwest, west, southwest and south to transport the passengers in the swiftest and most comfortable way.

Coming here is done in luxurious fashion, staying here is made imperial and leaving here is enlivened with the regret ever given to unqualified enjoyment.

Perhaps the most effective single instrumentality of Savannah's sovereign attraction as a winter resort is her De Soto Hotel. It was a wise inspiration of enterprise to build such a hotel. Its location is perfect, covering a square, surrounded on every side by a street, built in modern style, with every modern convenience, in the finest part of the beautiful place, fronting on the most enchanting street in the South, and the equal of any in the Union, paved with asphalt, and running through lovely squares ornate with historic monuments, kept palatially—the De Soto hotel is a king of taverns and a mighty factor of travel.

Savannah has other excellent hotels, like the Scriven House, for instance, in the business part of the city, convenient to the bay, banks and commercial buildings.

Savannah is a place for rare walks and delightful drives, and, in addition, it has a multitude of seaside suburbs, reached by smooth and swiftly running electric cars that are the very luxury of quick transportation. The churches are everywhere, and of every kind, and of the best.

The old city is historic in every foot within its precincts and immediate environments, and affords infinite subject for the student and antiquarian. No city is richer in traditions and memories that keep a noble past alive and awaken the old glories of the land.

Perhaps, at last, the crowning attraction of this fitly named "Forest City" is its superb art academy and gallery. This invaluable institution recalls the art flavor of the illustrious art centers of the old world, and is an imperial aesthetic enchantment for the cultured. No one should neglect to visit it, and every effort should be made by press and citizens to keep it before the attention of travelers.

Savannah is destined to be an ideal winter resort.

PHOSPHATES.

Charleston's Phosphate Industry.

By Theodore Nathan.

It was a fitting thing that the South should herself furnish the fundamental ingredient for the fertilizer that manures to largest results her imperial cotton crops. The discovery made since the war that the inexhaustible rock in the rivers and islands near Charleston contained the basic element of agricultural fertility not only revolutionized the farming and gardening of the South, but has affected materially the crops of the world. From this crude and seemingly valueless rock sprang into existence a rival to the costly guanos of the South American islands, which had become an important contribution to the world's commerce, and which the Carolina phosphate is replacing.

Tremendous industries have grown into life since then based upon this once barren stone. Dozens of land and river mining companies mine thousands of tons of crude rock, using great capital and many hands and ships; large fertilizer plants make and send into trade the prepared phosphate, swelling commerce, while the State of South Carolina, using the right of eminent domain in these rich rivers, draws from the deposits a royalty of \$1.00 a ton from the thirty-one companies engaged in the business, or from \$150,000 to \$200,000 yearly toward paying the expenses of her government and relieving the taxpayers of that much burden. In 1891 her royalty collected ran to \$184,502.46. In February, 1893, the royalty receipts were \$47,865.07.

Charleston enjoys the honor of being the first phosphate market in the world. Nearby, the Coosaw river affords the finest rock, but there is good mining in Edisto, Ashepoo, Stone, Wando and Ashley rivers, and large mining companies are at work there. The Carolina phosphate rock is superior to any in the South. It is a standard article, reliable and uniform in quality and composition, and contains no deleterious substances.

Taking the year 1891 as a typical twelve months, South Carolina mined a grand total of 572,949 tons of phosphate rock worth \$4,275,000, of which 392,743 tons were moved from Charleston and 180,206 tons from Beaufort. This 572,949 tons was distributed as follows:

	Tons.
Shipped coastwise.....	215,487, or 38 per cent.
Shipped foreign.....	126,758, or 22 per cent.
Shipped interior.....	79,664, or 14 per cent.
Consumed at home.....	151,000, or 26 per cent.
Total.....	572,949, or 100 per cent.

This distribution is interesting. Carolina manufactured over one-fourth, or 26 per cent., of her own raw products at home—a most creditable achievement. She sent, mostly by sea, 38 per cent. North, 22 per cent. abroad for foreign consumption, and shipped by rail to the interior 14 per cent.

Florida shipped her first phosphate in 1889 and in 1891 mined 181,448 tons. Algiers and Tunis have newly-found phosphate deposits away from rail or water communication estimated at 15,000,000 tons, and Nelson county, Va., has a small area of high-grade phosphate ten miles from rail.

South Carolina is the largest producer of phosphates in the world, leading with her 600,000 tons; France and Belgium next, each 450,000 tons; Florida next, 200,000 tons; Russia, 75,000 tons; Spain and Germany, 50,000 each; Dutch West Indies, 20,000; English West Indies, 10,000; North Carolina, 7500; Algeria, 2500.

South America produces 60,000 tons of guano and Mexico 5000. Canada produces 31,000 tons of apatite and Norway 20,000. The whole phosphate and guano production of the world is 2,100,000 tons, of which Carolina produces 600,000 tons, or nearly 30 per cent.

Carolina has no prospect of losing her phosphate supremacy. The phosphate exhibition she will make at the World's Fair at Chicago this year will be unique and striking, and will attract universal attention and enlarge her fame and business. The entire withdrawal of cottonseed as a fertilizer, due to its greater value for other purposes, must proportionately swell the demand for and use of Charleston's valuable and exhaustless phosphate rock.

Sale of Fertilizer Tags in Alabama.

The Alabama commissioner of agriculture has given the public a statement of the sale of fertilizer tags for the past three years. Manufacturers of fertilizers are only purchasing tags in small lots, and only such as they expect to sell this season. Under the new commissioner of agriculture the dealer can buy a quantity that he is sure can be disposed of during the season. While there is an increase in the sale of tags over last year, it is thought that the acreage in cotton will not be in proportion to the sale of tags.

The comparative statement of receipts from sales of fertilizer inspection tags to April 1st of the three last seasons is as follows:

Months.	1890-91.	1891-92.	1892-93.
October.....	\$1,026 75	\$742 25	\$179 00
November....	2,853 60	1,074 75	719 15
December....	5,568 00	4,183 25	4,251 75
January....	20,322 05	9,769 90	19,472 50
February....	17,193 50	19,886 90	16,752 00
March.....	9,745 20	6,114 50	9,712 25
	\$56,688 50	\$41,114 55	\$51,386 65

Activity in Phosphate Around Fort Meade.

FORT MEADE, FLA., April 3.

Phosphate matters in Polk county are decidedly active at present, and in and around Fort Meade the general features of trade are very encouraging. This town is going ahead very rapidly, and its progress during the past two years is worthy of the attention of parties seeking lucrative avenues of business. The monthly meeting of the Board of Trade was held last week, at which there was a full attendance and at which considerable business was transacted relating to the interests of Fort Meade. We are now to have a weekly journal established here which will chronicle the progress of this section. There are a number of visitors here combining business with pleasure, and a number of deals are mentioned, which will all tend to the progress of Polk county.

In the phosphate world there is much that is interesting, and it is said that two new phosphate companies will establish plants within the next sixty days. One of the companies is the Belle Phosphate Co., which has leased a large tract of valuable phosphate land on Bowlegs creek, three miles east of this town, and will put in a magnificent plant. The capital of the company is stated at \$500,000. Mr. James Simmons, of New York, is the promoter and contractor for this concern; Col. R. R. Foote, of Chicago, is the manager, and Major Dill, of Bartow, Fla., is contractor for the buildings, dredges, etc. The storage bins will have a capacity of 5000 tons, and their output is to be 100 tons per day. A side-track will be put in to connect with the Florida Southern Railroad. The officers of the company are: Doctor Hewitt, of London, England, president; W. A. Ohley, secretary of state for West Virginia, vice-president and director, and J. H. Henderson, of New York, secretary. The Virginia-Florida Company, whose mines and works are situated two miles north of here, is displaying an unusual amount of enterprise and energy to get its plant in perfect working order. A large steam shovel and dredge, made especially for the company by the Bucyrus Steam Shovel Co., of Bucyrus, Ohio, has been introduced and is doing splendid work,

with a digging capacity of half a yard of phosphate or overburden, equal to one ton to the cubic yard. This company may be classed among the first in land-pebble mining, and is ably managed by Capt. T. R. Dunn, late civil engineer to the city of Petersburg, Va. Other matters relating to the development of the phosphate industry throughout Polk county which claim special attention will be noted in the usual course of affairs as they transpire.

Phosphate Matters in Marion County.

OCALA, FLA., April 1.

There is considerable life in and around this enterprising town at present, and the business and industry of Marion county seems centred here. Many improvements are in progress, new buildings being erected, and several new enterprises are now projected. The foundation of the new cigar-box factory is being laid and the building will be pushed to completion at once. The phosphate interests of the county, however, are of the greatest moment just now, and the work of mining is being carried on to a greater extent than ever before. The various companies are sparing no expense in the introduction of machinery perfect in design and of a character to produce the best results in mining, preparing the product and developing the phosphate industry generally. The Marion Phosphate Co. has completed all the necessary work to place in position its log-washers and complete improvements which will overcome all imperfections in imperfect machinery with which they have had to contend against. Along the Silver Springs, Ocala & Gulf Railroad the shipments of phosphate have been very large, and the number of cars in commission are increasing every day. Among the most notable improvements may be mentioned those just completed by the Dunnellon Company. This extensive concern is sparing no expense to get out of the phosphate industry all it is worth, and is now putting in an immense plant to wash and dry its output. The foundations are already laid and are of concrete, on which will rest a 250 horse-power boiler and a 175 horse-power engine of the Corliss pattern, enclosed in a 400-foot building containing four large log-rollers, so that the phosphate when dry can be shuttled into cars side-tracked at its doors. The company is now only working two of its mines, and is utilizing the immense piles of worthless dirt which have accumulated by taking it up the incline to a big washer, and is putting it through at the rate of about three tons per day. Many additional improvements of minor importance are in progress, and when completed the company will have a perfect plant. A sale of 150 acres of the Owens estate has been made by W. V. Knott, of Knott Bros., of Leesburg, to parties from New Jersey; the price is said to be \$75.00 per acre. These parties are said to have ample capital and will go extensively into the mining of phosphate. The Stonewall Phosphate Co., of Jacksonville, has tested its Cummer dryer and purifier and found it satisfactory. Capt. L. M. Thayer and others are opening up works at Anthony, near the Stranahan Company's phosphate mines.

Phosphate Markets.

OFFICE MANUFACTURERS' RECORD,

BALTIMORE, April 6.

In the local market the volume of transactions in phosphate has been moderate, and the general market is a shade better under advices from the United Kingdom and Continent. Latest quotations represent the market a shade firmer, and South Carolina rock at six and a-half cents for the United Kingdom and seven cents for Continent. Florida is quoted six and a-half cents less two and a-half cents for Peace river phosphate. Our advices report small sample sales of phosphate rock from Algeria, Africa, which is being introduced in the markets of Europe. Little is known of the quantity of this rock existing at points of production, but as to quality it is safe to say from the analysis we have seen that it will be quite a factor in competition with others. This phosphate shows by analysis 65 to 69 per cent., with about 1 per cent. of iron and aluminum. From South Carolina the market is reported in fair shape, with prices very steady in tone and stocks not excessive. Florida rock is holding its own, and sales of 10,000 tons by the Bone Valley Phosphate Co. have been made to European buyers at \$5.00 f. o. b. Tampa. The arrivals of phosphate rock at Baltimore during the week are as follows: Schooners Annie T. Ebner, from Coosaw, S. C., with 780 tons, and Blanche Hopkins with 875 tons and Gertrude Abbott with 800 tons, both from Charleston, S. C.—total, 2455 tons. Phosphate freights are unchanged, and engagements reported are the schooner Nellie W. Howlett, rock from Port Royal to Baltimore, and Star of the Sea, rock from Charleston to Baltimore. The market closes as follows: Ashley river rock is quoted \$4.75, and Charleston \$5.00, and for future delivery \$3.75 to \$4.25 for 50 to 55 per cent. product. Florida river pebble, 60 per cent. product, is quoted \$3.75 to \$4.25 f. o. b., and land pebble, 67 to 70 per cent. product, \$5.00 f. o. b. Florida hard rock is firm at \$8.00 to \$8.50 f. o. b. Fernandina.

FERTILIZER INGREDIENTS.

The market rules quiet, with prices easy and transactions limited. There is no excessive demand at this period of the season, as manufacturers are fairly well supplied. We quote as follows: Blood, 2.65 to 2.75 per unit f. o. b. Chicago; tankage, 7 per cent. of ammonia and 20 per cent. bone, \$27.00 to \$30.00 per ton Baltimore; brimstone, best unmixed seconds and thirds, \$18.50 to \$20.00; nitrate of soda, 2½ cents per pound and 2.20 to arrive; ground bone, \$28.50 to \$31.00 per ton of 2000 pounds; dissolved South Carolina phosphate rock, \$11.50 to \$12.50 per ton in bags for car lots; dried fish in job lots, \$30.00 to \$32.00; ground, \$33.00 to \$34.00; wet and acidulated, \$18.50 to \$20.00; dissolved bone black and dissolved bone ash, 18 per cent., \$20.00 to \$22.00; kainit, \$11.50 to \$12.00 per ton of 2000 pounds in bags; muriate of potash, \$1.85 per 100 pounds for spot goods of 80 per cent.

FERNANDINA, FLA., April 3.

The port of Fernandina has enjoyed during the month of March a fair volume of business, and in nearly every industry a marked improvement is recorded. While the actual shipments of phosphate have not been as large as other months, they cannot be considered unimportant. On or about the first of March the steamship Dora was cleared for Stettin, Germany, with 2180 tons of phosphate, and on the 15th the steamship William Ball cleared with 2185 tons for the same port. The steamship Dingwall cleared on the 24th with 2560 tons for Geistemunde, Germany, and on the same date the Ruahon with 2500 tons for Stettin, Germany. The other steamships leaving were the Ocean Prince with 1000 tons and the Delta on the 31st with 880 tons to Bordeaux, France. The vessels now in port are the Heathfield, which will take out about 2500 tons, and the Moorish Prince about 1800 tons. The French Company shipped during the month 8120 tons, the Dunnellon Company 2135 tons and the Albion Mining & Manufacturing Co. 1000 tons. There are several vessels expected to arrive during the week, and cargoes of phosphate are awaiting them. The lumber and timber industry of this port is at present very active, and a large fleet of vessels are now under charter to load. The following schooners were loading here with lumber on the 27th ult.:

Charles D. Hall, Ann J. Trainer, Abbie C. Stubbs, Ida E. Latham, Edward Stewart, Fannie Kemmey, Annie T. Bailey, William H. Summers, Anita, Charles S. Davis, D. B. Baker and Henry Tilton. L. F. Booth, of New York, is here at present looking after the branch office of Robinson & Booth, who have large interests in lumber and timber in this State.

CHARLESTON, S. C., April 4.

The general phosphate market is somewhat more active, and the advices from Europe continue encouraging. At producing points there is a very marked increase in the output, and miners generally are working at their full capacity. The volume of trade is larger than usual, both in spot and for future delivery. Shipments of phosphate rock during the week were as follows: Schooners James E. Bayless, with 600 tons, and William E. Clowes, with 660 tons, both for New York; schooners Edward G. Hight, with 700 tons, and Gertrude Abbott, with 800 tons, both for Baltimore; schooner John M. Moore took 800 tons for Philadelphia; schooner H. B. Hussey, with 850 tons, for Weymouth, and schooners Martin C. Ebel, with 650 tons, and Thomas Clyde, with 450 tons, both for Wilmington, N. C.—total exports 5510 tons. In the list of values there is a steadier tone, and the market closes quiet, with prices unchanged as follows: Crude phosphate rock \$3.75 to \$4.00 f. o. b., hot-air-dried \$4.75 to \$5.00 f. o. b., and ground rock \$7.50 to \$7.75 f. o. b. in bags.

The comparative exports of crude phosphate rock and ground from the port of Charleston from September 1, 1892, to March 31, 1893, and for the same time in 1891, are as follows:

Destination.	1892-93.		1891-92.	
	Crude.	Ground	Crude.	Ground
Baltimore.....	23,710	.....	20,801	.....
Philadelphia.....	10,156	.....	10,256	.....
Boston.....	.....	.....	.....	.....
Elizabethport.....	3,179	.....	600	747
Wilmington, Del.	.....	.....	1,673	.....
Barren Is., N. Y.	6,717	1,641	7,038	1,613
New York.....	1,319	.....	2,057	.....
Mantua creek.....	8,620	.....	12,857	.....
Weymouth.....	4,999	.....	4,622	.....
Richmond.....	600	.....	600	.....
Seaford, Del.....	1,078	.....	1,078	.....
Newton ck., N. J.	665	.....	450	.....
Wilmington, N. C.	.....	.....	.....	.....
Welsh Point.....	.....	.....	1,890	.....
Orient, L. I.....	3,390	.....	2,490	300
Total exports.....	64,433	1,641	66,412	2,660
By railroads.....	.....	35,600	.....	1,613
Foreign ports....	175	.....	442	.....
Grand totals..	64,608	1,641	102,454	4,273

FERTILIZER INGREDIENTS.

The market for ingredients is very firm and stocks are light. There is still a great scarcity of blood, tankage, fish scrap, etc., and a general hardening in prices for all material. Acid phosphate is quoted \$12.00 to \$12.50; ash element \$12.50 to \$12.75; kainit \$12.00 to \$12.50; ammoniated fertilizer, 2½ per cent., \$18.50 to \$19.50; 2 per cent., \$18.00 to \$19.00, and 1 per cent., \$17.50 to \$18.50; marl \$7.00 to \$8.00; brimstone to arrive \$24.00 per ton for best unmixed seconds, and nitrate of soda (direct) per 100 pounds \$2.50. There is a good business in progress among manufacturers of fertilizers, and trade has been larger this season than for any yet recorded. The demand during the week has been larger and prices hold firm.

Phosphate and Fertilizer Notes.

THE British Steamship Macedonia arrived at Port Tampa last week to load phosphate from the Bradley Phosphate Co. There are now three English steamships and two schooners, all to load with phosphate. Several other vessels are due.

THE Osceola Phosphate Co., of Albion, Fla., has ordered a complete wood log washer from McLanahan & Stone, of Hollidaysburg, Pa. A very complete plant is contemplated.

COTTONSEED OIL.

This department is open for the full and free discussion of trade topics and practical questions, and contributions are invited from men who are identified with this industry. Items of news are always acceptable.

Cottonseed Oil in Holland.

ROTTERDAM, March 18.

Editor Manufacturers' Record:

The market for cottonseed oil has been again very quiet during the week ending March 18, and prices have declined somewhat. The butter manufacturers don't use much cottonseed oil, and buy other kinds of oil, which are still to be obtained at moderate prices.

The arrivals of oil from America are not important, but the ports of the Continent and England are shipping good quantities to Holland. This week more than 2200 barrels have arrived here from Marseilles, and a good quantity is still on the way from Triest, London, Leith and Liverpool. Other English ports have also shipped parcels to Rotterdam, and because, as explained, the butter-makers don't buy much cotton oil, the stock is increasing. The prices are high, the season is already somewhat advanced and the stock is important, so it is far from impossible that we shall see lower prices of oil this season.

This week not much business has been done. The manufacturers of butter are only inclined to buy at lower prices, and the owners are not inclined to sell at much lower prices. The price of choice butter oil remains \$46.00 to \$47.00, but this figure is not to be obtained. The business can increase only if the owners will sell their goods at lower prices. The butter-makers can wait a good time, and even if they are obliged to buy, they will take only small parcels at actual prices. G. W. SANCHES.

The Cottonseed-Oil Market.

NEW YORK, April 5.

Editor Manufacturers' Record:

There were hopes early last week that the cottonseed-oil market would come out of its depressed condition and assume something like steadiness, as all surrounding features were pointing that way. The exporters then were about ready to buy compound lard more freely, and only awaited a slightly smoother look to the lard position, which was then only a trifle disturbed; but suddenly there came a radical break in lard under the unloadings of two large speculators at the West, and buyers of actual stuff, not only of compound lard, but of all articles that go into its use, dropped out, and affairs all around became very dull. It has been possible to sell cottonseed oil only in very limited quantities and by making steady reductions in its prices. The South has been somewhat disturbed by the demoralized look of general trading here and at the West, and has solicited bids with more urgency, although not altogether willing to accept some of the low prices that have existed here on the limited business that has been done. A singular feature has been the offerings of moderate quantities of off grades of crude at an exceptionally low price, or down to thirty and thirty-one cents, but at the close there is some hesitancy about accepting these prices. Some of these lots as taken up will go into consumption at once, while others will find their way into the hands of the principal holder of oil.

While it is generally known that the holdings of prime crude are very moderate and under ordinary circumstances would form a short supply, yet at the close it is not possible to get over forty cents bid, while forty-two cents would bring out sellers of limited quantities. This prime crude grade shows up least in the offerings from the mills. In the absence of material demand prime summer yellow is a little

irregular in price. It has been sold in small lots as low as forty-six and a-half cents, and forty-six cents would buy in one or two sources, but in a general way holders decline to accept those prices. The difference in the prices of prime yellow and prime white narrows as the season advances, and especially as the exporters are almost entirely out of the market for the latter, notwithstanding its sharp reduction in price latterly. One or two small sales of prime white have been made as low as forty-nine cents; this figure, however, is under the views of general sellers, as indeed most of the quotations noted at which sales have been made, as there is a lingering feeling that prices ought to do better this month, and all eyes are turned to the developments of the lard market, which alone, in any recovery of strength, would exert an influence upon oil by permitting exporters to operate with some confidence in compound lard.

As to the lard situation, there are various theories held; there is more or less of a suspicion that its recent radical break means in some degree the furtherance of a short interest in it, and that may cause some strength in the market shortly, especially as stocks of lard continue very moderate all over the country. It must be borne in mind, however, that compound lard is not likely to assume any marked activity in trading for the balance of the season, as no inclination would exist to carry stocks of it over into the warm season, as prime refined lard would in some degree take its place on account of its greater consistency.

The market closes very weak, forty cents being the only bid for prime crude and forty-five cents for prime yellow. Off crude cannot be sold except at very low prices. There was one sale yesterday at thirty-two cents, but the only bid is thirty cents. Off yellow is unsalable at present.

HOPKINS, DWIGHT & CO.

The Possible Utilities of Cottonseed.

The moral lessons of long ago which pointed out the frugilities of commerce would fail to impress us now that science has accomplished so much in preventing waste and in recovering for second service the materials used in manufacture. Under the "Sandford and Merton" dynasty of story books we were expected to be much amazed at the distribution of the different parts of cow among distinct trades after all that was eatable had been taken from the carcass, so that, from the end of its horns to the tip of its tail, not omitting teeth or hoofs or hair, nothing was thrown away. But these were the rudiments of commercial economy, and nobody would have dreamed at that time of extracting what seemed to be unrelated products from common substances, say saccharine and aniline from coal tar, or would have thought it possible to make ink out of scrap iron, phosphorus from old bones, or looked for (out of Wonderland) half a hundred other marvels of the laboratory with which we are familiar. Still less would it have appeared practicable to get sugar out of cottonseed, and yet that is the latest development which is said to be in store for trade.

Another illustration of the open-handed and often unsuspected munificence of nature has sometimes been found in the way in which uncivilized man supplies all his needs from some single plant, so that, for instance, it is not necessary to go away from a palm tree to get other food, shelter, fuel and clothing than what it will afford, which is more than the "meat, clothes and fire" which Pope summed up as the acknowledged necessities of life. But before long it would seem as if, in multitudinous utility, the cotton plant will hardly have an equal. Besides its lint, and all the thousand and one fabrics made from it, the seed, which was thought to be worthless

until a few years ago, furnishes cattle food, soil fertilizers and oil of high quality. All that the oil furnishes is more than can be told, but, although it has little value as a lubricant, it enters into consumption far more widely and under many more disguises than most people would imagine, masquerading often as olive and salad oils and lard; in addition, having legitimate employment in the manufacture of excellent soaps and candles. The seed has become of so much commercial importance that a new lintless cotton was announced some time ago as a development of the greatest promise, but, like other coming cotton novelties, naturally-colored cottons in particular, nothing more has been heard of it. The seed husks are often used for fuel and the ashes sold because of the potash contained in them, and a kind of felt is made from the lint which the gin has still left upon the seed. The husks are sometimes made into paper pulp, or may be used for tanning. Even after the round of cotton-fabric manufacture has been completed the waste remaining is taken in hand again, all the oil and grease extracted from it to be made into printing ink, and the purified waste put again upon the market. There have been reports of a dyestuff having been obtained from the oil, and now that sugar is to be extracted from cottonseed meal, we can only wonder what next. It is asserted that the sugar is "of very superior grade, being fifteen times sweeter than the cane sugar and twenty times more so than the sugar made from beets." But according to the account given there is at present no prospect of its general consumption because of "its peculiar tendency to ferment and sour." Without casting any reflections upon the new sugar, and certainly without any skepticism as to its possibility and prospects, the remark may be permitted "without prejudice" that sour sugar could not be tolerated. And we have been reminded that sugar once stood, as "oof" does now, as a popular synonym for hard cash, and it is remarked that if chemists can now get sugar of one sort out of cotton, it is more than spinners can get of the other kind out of it.—*Textile Mercury*.

Cottonseed-Oil Notes.

THE Alvarado Cottonseed Oil Co., of Alvarado, Texas, will commence the erection of their mill at once.

WORK on the cottonseed-oil mill at Yoakum, Texas, will commence in May next.

THE cottonseed-oil mill company which is being organized at Abilene, Texas, announce that already enough stock has been subscribed to warrant them in placing their orders for the erection of the mill in order to handle the coming crop.

MESSRS. DIFFEY & SMITH have purchased the James Converse water-power property at San Marcos, Texas, for which they paid \$12,000. They will at once erect a cottonseed-oil mill and batting factory. The Home Mill Association of San Marcos have also organized, and will erect a cottonseed-oil mill at once.

A CONTRACT was closed with Atlanta (Ga.) parties on the 29th ult. for the completion and equipment of cottonseed-oil mill at Georgetown, Texas, to be ready for this season's crop. The capital stock is \$30,000, and with the exception of \$2000 or \$3000 is all taken by Williamson county men. The capacity of the mill will be thirty tons per day. Officers for the company have not yet been elected, but a meeting of the stockholders will be held for that purpose at an early day.

AT Kaufman, Texas, on the 24th ult., there was a meeting of the subscribers to stock in the proposed cottonseed-oil mill. A charter will be immediately taken out and the work of erection commenced at once. The machinery is ordered, and will be delivered as completed at the factory.

TEXTILES.

[A complete record of new textile enterprises in the South will be found in the Construction Department, on pages 190 and 191.]

Batesburg's New Mill.

A meeting was held last week at Batesburg, S. C., of those interested in the erection of the new cotton factory for which a charter was recently granted. Organization was perfected by the election of the following officers: President, John H. Huet; secretary and treasurer, E. C. Ridgell; board of directors, Dr. T. S. Fox, Capt. U. H. Gunter, L. D. Cullum, O. J. Harris, N. A. Bates, W. L. Rawle, Capt. A. P. Bonknight, John H. Huet and E. C. Ridgell. The citizens of Batesburg are taking a great interest in this enterprise, and prominent capitalists from other sections are taking stock in the mill. More than 50 per cent. of the capital stock has been subscribed, and 20 per cent. is being paid in, which will insure the charter. The board of directors are composed of the first men of the State and rank high in commerce and finance.

Another Proposed Mill.

The town of Johnston, S. C., will likely erect a cotton-manufacturing plant in the near future. The matter has been broached by several prominent citizens, and a meeting has been called to be held this week for the purpose of formulating plans for the opening of subscription books. Major W. L. Coleman states in view of the organization of a company that he will offer fifty acres of land as site for the necessary buildings. Subscriptions of over \$25,000 have also been offered.

Sturtevant System of Heating and Ventilating.

One of the most essential, if not the most important, of all matters in the operation of a manufacturing establishment is to have the buildings properly heated during cold weather and thoroughly ventilated at all times. While during certain seasons of the year excellent ventilation may be secured by having windows open, still in many classes of manufacturing plants the breeze thus occasioned may seriously interfere with the work, and apart from this the time when this may be done is only during warm weather. It was to meet the needs of the manufacturer and occupants of poorly-ventilated buildings, large or otherwise, that mechanical appliances, by which an abundance of fresh air, either warm or cool, as may be, were introduced. At first much doubt existed as to their efficacy, but, as repeated trials and their constant installation in new and old buildings show, such doubt has no foundation, and, furthermore, the testimony of all who have tried these various systems of ventilation goes to prove that the results obtained have abundantly confirmed the statements of the makers to the effect that more and purer air would promote the health, and consequently the effectiveness, of all employees.

The simplest of all structures requiring ventilating and heating are one-story buildings, such as mills, shops, exhibition buildings, etc. No other form of building has so large an amount of wall and roof surface per cubic foot of enclosed space. Such buildings are ventilated and heated by the Sturtevant system as shown in Fig. 1, which gives both ground plan and cross section.

As the number of stories and extension of buildings is increased the Sturtevant apparatus finds new means of application. In a simple design, as arranged for a comparatively narrow and moderate-sized building already constructed, the apparatus is usually placed in the basement near one end of the building. From it the heated

air is conveyed throughout the basement by a horizontal pipe suspended beneath the first floor, and thence distributed to the different stories by standpipes extending to the upper floor. Properly-shaped and proportioned outlets in these standpipes near the ceiling on each floor suffice to distribute the air through the various rooms. Branch pipes can be readily taken out for heating

Fig. 3. It will be noticed in this that the flues are all upon one side of the mill and connect at the bottom with the main air duct from the fan and heating apparatus.

A simple arrangement by which the number of flues is greatly reduced is shown in the cut, where it has as many outlets as there are stories and discharges the air into each. The flues are built as pilasters out-

It has been conclusively shown by experiment that the whole question of escaping from electrical trouble will be found in the matter of relative humidity. If there is sufficient moisture in the atmosphere there is no trouble; if there is not sufficient moisture electricity always appears, owing to the fact that dry air is a poor and moist air a good conductor of electricity.

As moisture depends upon the currents of air to distribute it, no better means can be found than the Sturtevant steam hot-blast apparatus for obtaining the required results. While doing its duty efficiently as a heating and ventilating medium, the air may be moistened to any desired degree by sprays or evaporating pans in the passages from the heater to the rooms. The exact humidity of the air may be noted by a hygrometer and regulated to the closest degree, thereby absolutely preventing the presence of electricity.

The Spartan Mill at Spartansburg, S. C., was arranged especially for this system, and among the other mills using it are the

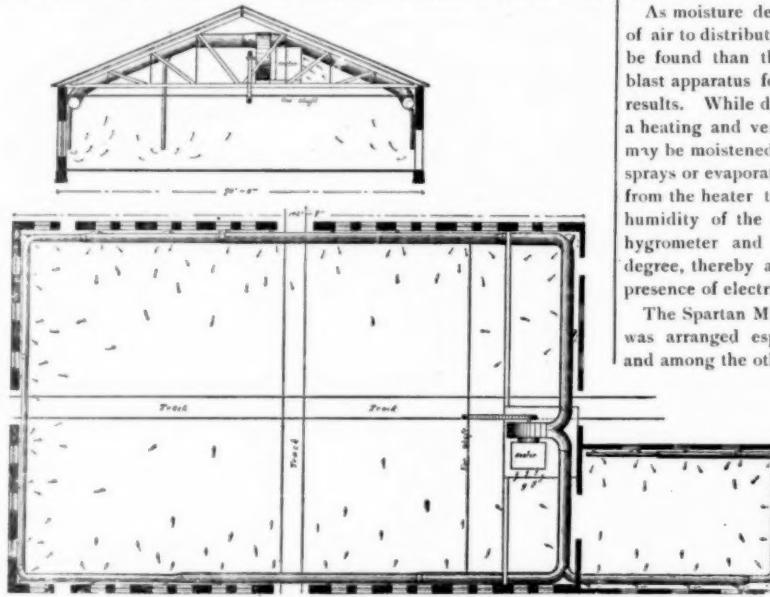


FIG. 1.

independent rooms where such exist. The general arrangement in such buildings is shown in Fig. 2.

In some cases the heated air is conducted directly from the heater to the different floors by a flue built on to the outside of the building; thence the air is readily distributed by pipes running centrally throughout the entire length of each

side the building, the exterior walls around the flues being double, with air spaces between, to prevent loss of heat. These flues are generally located from fifty to seventy-five feet apart, along one side of the mill and the openings placed some ten feet above the floor. Each outlet is provided with a special damper to control the admission of air.

following: Altamaha Cotton Mill, Burlington, N. C.; Aurora Cotton Mill, Burlington, N. C.; Crown Cotton Mill, Greensboro, N. C.; Galveston Cotton and Woolen Mill, Galveston, Texas; Mississippi Mill, Wesson, Miss.; Oakdale Manufacturing Mill, Jamestown, N. C.; Odell Manufacturing Co., Concord, N. C.; Spartans Mills, Spartansburg, S. C.; West Huntsville



FIG. 2.

floor. This arrangement results in great economy in piping, the discharge outlets being simple elbows inserted in the main pipe, the latter being gradually reduced in diameter to compensate for these openings. If the mill is wide a pipe is run upon each side of the room, near the walls.

One of the most important applications of this system is to textile mills. The method adopted in such cases is shown in

The presence of frictional electricity, generated by the motion of running stock and machinery, is a source not only of annoyance, but of positive loss to textile mill-owners. Futile attempts have been made to conduct away this troublesome electricity, but all parts of a machine cannot be properly connected for the purpose, and a resulting residue of electricity is sure to make itself known.

Manufacturing Co., Huntsville, Ala.; Carleigh Mills, Raleigh, N. C.; Cottonia Mills, Haw River, N. C.; Erwin Cotton Mill Co., Durham, N. C.; Henrietta Mills, Henrietta, N. C.; Newton Cotton Mill, Newton, N. C.; Coosa Yarn Co., Piedmont, Ala.; Pacolet Manufacturing Co., Pacolet, S. C.; Dallas Manufacturing Co., Huntsville, Ala.; Sherman Seamless Bag Co., Sherman, Texas; West Huntsville

Cotton Mill, Huntsville, Ala.; Windsor Cotton Mill, Burlington, N. C., and others.

The Charlotte Machine Co., of Charlotte, N. C., have recently been appointed special agents for the Sturtevant system, and will attend to its installation in Southern mills.

Cotton Market.

NEW ORLEANS, April 3.

Editor Manufacturers' Record:

June in this market is practically at eight cents, today having sold at eight and a-hundredth cents, a decline of twenty-five points since the closing here on Thursday last. Ordinarily, reactions after such declines are very much in order, but we have rarely had such conditions as now exist, so far as spot cotton is concerned, because there seems to be no prospect of a demand in the near future, either for home or foreign consumption, sufficient to relieve the holder of cotton in this country of any of the weight that he has been carrying for some time. Therefore, as the spinner seems indifferent everywhere, and as Liverpool has a very large stock of American, there seems little to encourage the buying of contracts even at present discounts, with little prospect of relieving the pressure at ports and at interior points. It is yet two months before anything official will be

or about 2,300,000 less than last year. The crop, therefore, indicates about 6,400,000 bales. This is something, however, that no attention is being paid to, because no matter what actual figure eventually is realized, there is too much cotton at the moment for consumptive purposes, and there will be until we have a promise of a supply much smaller than is now expected.

ATWOOD VIOLETT & CO.

CLOSING PRICES OF COTTON FUTURES.

Months.	New Orleans, April 5.	New York, April 5.	Liverpool, April 5.
April.....	7.68	7.88	4 28-64
May.....	7.73	7.95	4 29-64
June.....	7.81	8.24	4 30-64
July.....	7.88	8.11	4 32-64
August.....	7.90	8.15	4 33-64
September.....	7.87	8.16	4 34-64
October.....	7.90	8.19	4 33-64
November.....	7.92	8.23	4 34-64
December.....	7.94	8.29	4 34-64

CLOSING PRICES OF SPOT COTTON.

Grade.	New Orleans, April 5.	New York, April 5.	Liverpool, April 5.
Middling.....	8	8½	4½
Low middling....	7 11-16	7 15-16	4½
Good ordinary....	7 ½	7 9-16	4½

Tone of market.

Weak. Quiet. Easy.

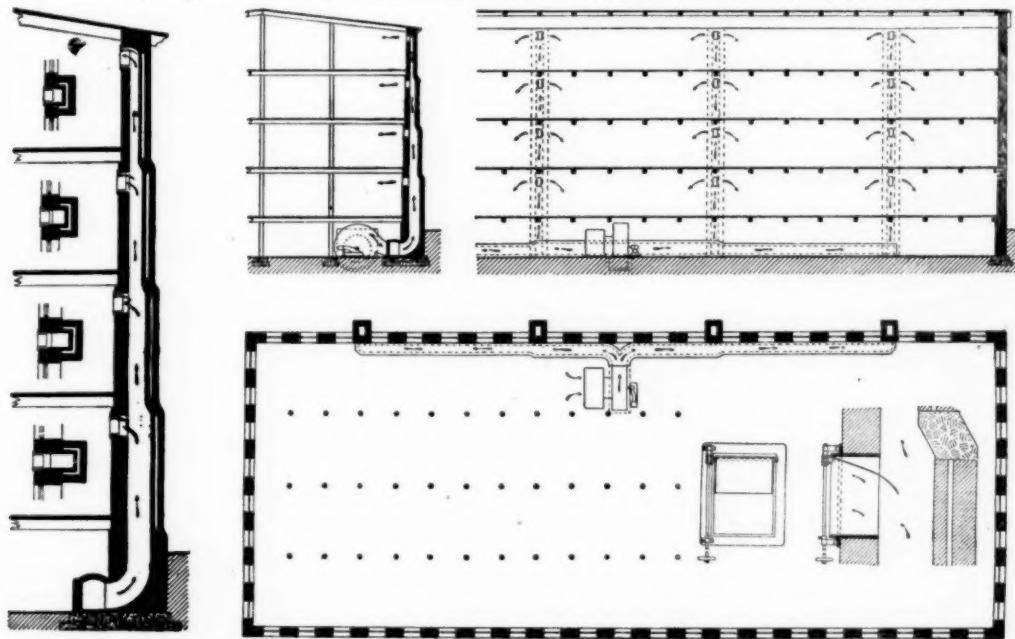


FIG. 3.

Southern Textile Notes.

THE new Meridian (Miss.) Knitting Mill has commenced operations with twenty-five machines, having a capacity of 250 dozen hose daily.

AN order for 1,500,000 yards of shirtings is now being filled by the Odell Cotton Mills, of Concord, N. C.

MR. J. FRANK PATTERSON is endeavoring to secure sufficient stock to build a cotton mill of 4000 spindles at China Grove, N. C.

THE establishment of a knitting mill at Newnan, Ga., is in contemplation by citizens of that town. A \$10,000 plant to employ eighty operatives is proposed.

THE Tennessee Line & Twine Co.'s new factory at Elizabethton is now in course of erection, and work on it will be pushed with all possible haste.

MR. W. R. KINDLY, of Mount Pleasant, N. C., contemplates erecting a cotton factory in the near future.

COL. A. J. BOYD on the 30th ult. purchased the Reidsville (N. C.) Cotton Mills for \$60,000 under a mortgage sale. The plant is worth about \$100,000, and the new owner will continue actively operating it.

THE Georgia Manufacturing Co.'s new mill at White Hall is rapidly nearing com-

pletion and will be in operation by July 1. This plant is to replace the one burned some time ago, and is equipped throughout with the latest improved machinery. Mr. John White is the manager of this concern.

THE Pilot Cotton Mills, at Raleigh, N. C., Messrs. Williamson & Foster, proprietors, will start operations about May 1. The plant is to contain 7000 spindles and 150 looms.

GENERAL NOTES.

Brief Mention of Various Matters of Current Interest.

THROUGH the work of the Young Men's Business League of Memphis, Tenn., the following new manufacturing firms have located in that city, viz: R. Neptune & Co., of Vincennes, Ind., for manufacturing cooperage, who found it necessary to move South on account of the scarcity of timber; L. Seider & Co., of Kokomo, Ind., also to engage in the cooperage business, and who removed for the same reason; A. L. Eaton, of Ottumwa, Ia., who recently burned out there and removed to Memphis to manufacture hardwood tables.

THE steamers of the Pensacola-Havana Line, sailing from Pensacola, Fla., have been carrying good cargoes to and from

bile, and accompanied the exhibit; also a number of barrels showing original packages of spirits of turpentine, pitch and rosin, besides the vessels used in conveying the crude products to the still.

MR. T. K. BRUNER, secretary of the State Board of Agriculture and North Carolina's commissioner of exhibits at the World's Fair, was in Charlotte, N. C., last week collecting material for the State's mineral display. The visit of Mr. Bruner was merely supplemental in character, the main collection having gone forward some time ago. He is now adding to the display already collected.

A CHARTER has been filed at Austin, Texas, for the Texas City Improvement Co., having for its purpose the construction and operation of a deep-water channel connecting the Gulf of Mexico along and across Galveston bay with the proposed Texas City, on the west shore of Galveston bay. The company has its capital stock placed at \$2,000,000, and the incorporators are A. B. Walvin and others, of Duluth, Minn.; F. B. and F. L. Davidson, of Galveston, and E. B. Frederick, of Michigan.

THE citizens of Houston, Texas, have succeeded in raising sufficient subscriptions to ensure the success of the cotton carnival and exposition which they propose holding next November. A permanent brick and iron building to cost about \$30,000, and capable of seating 6000 persons, is contemplated in the plans. The building will be arranged suitably for accommodating large gatherings, such as conventions, concerts, public receptions and the saengerfest. The latter event has already been secured.

THE Industrial Development Co., of Jacksonville, Fla., is reported in a flourishing condition. A total of \$120,000 of stock has been subscribed, and the first assessment of \$1200 paid in, and about \$1100 of the second. Gorin tract, on which is to be built the manufacturing suburb, has been purchased and is now being surveyed. The contract for the first building to be occupied by the El Modelo cigar factory is ready to be let, and a plan adopted to build forty residences to be completed when the cigar factory is built.

THE machinery for the extensive soap factory at Lynchburg, Va., owned and operated by the Lyman Manufacturing Co., of Baltimore, arrived last week, and has been placed in position. The capacity of the present plant is about 2500 to 3000 cakes per day. The plant is so constructed so that any grade of goods can be manufactured, and its capacity will be enlarged as the demand for the same occurs. The directors of the company are Alceaus Hooper (president), B. F. Bennett, F. J. Wagner, C. W. Slagel and Rudolph W. Rose. The management is under the charge of R. E. Whittemore, late of the Clinton Manufacturing Co., of Clinton, Conn.

THE new Bay Line steamer Alabama, built by the Maryland Steel Co. at Sparrow's Point, was completed last Saturday, and made a run down the bay to get bearings in good condition and adjust compasses. This vessel is the finest yet produced by the company since the addition of the marine department to their works. She is constructed entirely of steel, and the material, machinery and joiner work is the best obtainable and will excel any boat of her class. Her dimensions are as follows: Length 305 feet over all, length between perpendiculars 290 feet, breadth molded at deck forty-three feet, breadth over guards fifty-five feet, and depth molded in centre eighteen feet. She was placed on the line on Monday and made her first trip, reaching Norfolk on Monday night. Captain Bohannon is to be in command, and is much pleased with his new steamer.

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BALTIMORE, APRIL 7, 1893.

Notice to Advertisers.

The last forms containing advertisements are closed on Tuesday afternoon. New advertisements or changes should be received not later than Tuesday noon to ensure attention in the issue bearing date of the following Friday. Reading matter should be in our office on Wednesday, although late news can be received early Thursday morning.

BOSTON capitalists are chiefly interested in an important move which means the establishment of a great cattle-slaughtering business in Texas, near the ranges upon which the cattle are raised and fattened. A deal has been closed for the purchase of the entire property of the Fort Worth Packing Co. at Fort Worth, and the enlargement of the business in all departments. A large amount of additional property has been acquired, and the scheme involves the establishment of a bank to facilitate business. This will represent an investment of about \$3,000,000. The establishment will employ 400 men, and will handle 1000 cattle and 2000 hogs daily. Mr. G. W. Simpson, of Boston, will probably be president of the company, and Mr. Elmer Washburn, of Chicago, will manage the establishment. This move is of considerable consequence to the South, as the primary object of the company is to supply meat to the Southern markets.

MR. A. B. SHEPPERSON was recently in Memphis to look after the cotton exhibit prepared by the Memphis Cotton Exchange for the World's Fair. The Memphis *Appeal-Avalanche* says:

One hundred and one boxes, each box containing nine samples, were on exhibition, the samples showing the different classes, styles and grades of long and short staples, benders, extra benders, rivers, uplands, bottoms, stains, tinges, off-colors and re-gins. The samples were very fine, and attracted general attention during the day, the cotton men on 'Change examining them with great interest.

One hundred and one boxes, each containing nine samples, makes just nine hundred and nine samples.

No better commentary on the present ridiculous system of grading cotton could be adduced than this. No one imagines that there is any commercial use for this number of grades. Even the cotton men on the exchange found them exceedingly interesting, and yet these men and the cotton classers pretend to be able to carry in their memory the differences between these grades, and they all use them when it comes to buying and selling, shading the grade for the former and moving it up for the latter.

Bonuses for Manufacturers.

The failure of many industrial enterprises in the South has been due chiefly to the methods pursued by promoters in securing the location of manufacturing establishments. The greatest error in these methods is the granting of bonuses in various forms as inducements to manufacturers. No other practice has been so productive of legal complications, misrepresentation and dishonest dealings of various kinds. Bonuses have no place in common sense business dealings, and an offer or a demand for a bonus as a factor in determining the location of any industrial enterprise ought to excite suspicion of ulterior motives. The practice of offering bonuses, which has grown out of the competition between ambitious Southern towns and cities, has attracted to the South an unfortunately large number of business cripples—concerns either too weak or too deficient in honesty to get along without outside and unreasonable aid.

This question presents two definite propositions at the outset—first, a manufacturing establishment that cannot be located except through the instrumentality of a bonus is not a desirable addition to any community; second, a locality that would not be chosen by a manufacturing concern apart from the inducement of a bonus is not an advantageous location for a manufacturer. Bonuses are requested for two reasons—either because the concern is financially unable to meet existing business conditions, or because the seekers for bonus are prompted by dishonest motives. A concern that cannot conduct its business successfully without a cash gift, for which no equivalent is given, is of no benefit to an ambitious progressive community. A concern that demands a bonus practically as a bribe certainly is not an acquisition for which any self-respecting town would seek.

On the other hand, bonuses are given for one of two reasons—either to make up for deficiencies in natural advantages or to secure a basis for a speculative movement. Every offer of a cash bonus is open to these suspicions, and properly so. We hardly need to say that the offer of a bonus under either of these conditions ought at once to determine a refusal on the part of the concern to which the offer is presented. A locality that does not offer every needed advantage for the conduct of a certain line of business receives no additional resource by the offer of a bonus. An industrial establishment which is permitted to become the basis of speculative operations invites well-deserved disaster.

By bonus we mean an offer of money for which no equivalent is given. Legitimate and honest business does not recognize the exchange of something for nothing. This kind of exchange

exists only in gambling and thievery. If there be degrees of merit or demerit in bonuses, perhaps the least objectionable is the donation of land for factory sites, but we question the wisdom of even this modest form of persuasion. The whole matter can be boiled down to this: An advantageous location needs no offer of bonus to attract manufacturers, and a concern that is really desirable will not ask for and will not be influenced by an offer of money, land or similar inducements. A bonus has no place in legitimate business dealings.

Our Consular Service.

In the current number of the *Forum* there is an article on the "Attractions and Abuses of Our Consular Service," written by William Slade, formerly consul at Brussels, which deals in a very matter-of-fact way with this important branch of government service. Such treatment is particularly opportune at the present time, when persons seeking such positions are besieging and importuning their Congressmen and President Cleveland for recognition and appointment to represent this country.

Referring to the duties which devolve upon the occupant of a consulate, Mr. Slade says:

A consul's duties are only partly clerical. He not only verifies invoices of merchandise exported to the United States, but he must detect attempted frauds on the revenue through undervaluation—a duty often involving long and serious investigation, conducted in the language of the country in which he resides. He must furnish quarterly and yearly reports to the Department of State, the latter embracing full information in reference to commercial relations, and must further report from time to time on fifty-five other subjects and branches of subjects, such as "matters of commercial, industrial and agricultural interest," "manufactures, inventions and the development of new branches of industry," "the movements of trade and the increasing or declining demand for certain kinds of goods," "tariffs, finance, banking, currency, public loans and taxation," "decisions in important commercial questions," "technical and industrial education." At times also reports are called for on special subjects, sometimes involving in their preparation, as I can testify, weeks of incessant labor.

Should the various applicants for this position be questioned in regard to the duties as above described, their answers would, in all probability, betray a thorough ignorance of the necessities of the position. The ruling idea, possibly the result of American "push," or maybe of our political system, is to get the position and learn its requirements afterward; so the only equipment which a consular applicant must have is strong enough political backing and sense enough to keep his mouth shut and look wise when unfamiliar subjects are discussed before him. A back-country storekeeper might readily possess such requirements, but, except in a few exceptional cases, he would utterly fail in filling the position with credit to this country.

The sending of reports on various trade and economic conditions is one of the most important functions of our foreign consular service, but the benefits of this service are largely diminished by the lack of observant faculties in many consular representatives; by the want of competent editorial supervision of the publications, and by the long delays in making public reports that often are of value only by virtue of early publication. Consular letters written last November appear in the monthly report for January of this year, but this report, with the February number, was not issued until

the first of April, an interval of five months after the date of the letters, and of three months after the date of the report. As it frequently happens that matters are referred to which require prompt action for merchants or others to be benefitted, such a delay entirely destroys their value.

What our consular service needs is men—representative, bright and active American citizens—who can adapt themselves to the customs of the country in which they are placed without losing sight of the fact that they are the business or commercial agents of this nation, and who will employ their time to advance its interests. Such men cannot be made to order, and when found they would not willingly go for the beggarly salaries paid in most instances. This salary question is one which has militated against the efficiency of the service; indeed, as Mr. Slade intimates, it has bred dishonesty. In some positions the fees amount to considerable sums, of course, and these places are most sought for; in others they amount to but little, and again still others to nothing. In the latter cases there is every inducement, particularly if at a seaport, for the consul to make good his small salary or increase his fees by dishonest practices.

In England, France and Germany no man can become a consul until he has served as clerk for a given time and passed an examination designed to test the applicant's knowledge of the law of nations, of trade and the many duties of the position he seeks. Should he pass he will secure a position to which no great responsibility is attached. In other words, he belongs to the first or beginner's class. After a certain number of years of service, if he may wish to advance to a higher grade, he must again pass several successive examinations before he can hold the position equivalent to our consul-general. The result of this system has been to secure for these countries a consular service which, particularly that of France, is nearly perfect in its operation, and, in the case of all three countries, has enabled them to open and carry on an export trade which we will never win without an important change in our system. In these countries a consul retains his position for life, and is not removed unless for misconduct.

Such a system applied in this country would reduce the number of plums in the administration pie, and in consequence would meet with bitter opposition. Attempts have been made to establish such a system, and our existing system has been arraigned in language and with facts which could not but convince everyone of their truth, but such measures have eventually been laid aside by political influence. If we can not have a system which keeps an experienced man in preference to a new one, let us at least have an examination of the candidates which will weed out the ignorant ones who cannot do other than bring discredit on us, and give the position to such as have the ability to fill it. One thing is certain, that if we hope to extend our commerce we must be represented by more able men, on the average, than have in the past held these positions. We say on the average because our consular service has always contained some men who were in every way a credit to our government.

CORRESPONDENCE

The Cost of the Canning Process.

BALTIMORE, MD., April 1.
Editor Manufacturers' Record:

We have read with considerable interest your article on the canning industry which appeared in issue of your journal March 17. We can substantiate fully your assertions on the subject with the exception of your calculations on cost of labor and also on acreage required. We feel confident that on those two points you have made a miscalculation only, and a matter which you will kindly allow us to correct through the columns of your valuable publication. You state that the cost of labor for canning 4000 two-pound cans is \$25.00. You furthermore say that taking this as a basis, that the cost of labor for one two-pound can would be six cents. You should have said that the cost of labor of one can would be about three-fifths of one cent. You also stated that a fair crop of tomatoes is 300 to 400 bushels per acre, and that one bushel of tomatoes will fill sixteen to twenty three-pound cans, which latter statement is undoubtedly correct, but you go further and say it would take the product of 200 acres to supply a 4000-can capacity (per day) factory one day, and you also say that to operate this factory twenty days would require the product of 4000 acres. Now to arrive at the proper acreage to supply this capacity canning machinery, we will say that a bushel of tomatoes will fill eighteen three-pound cans, and the average yield of an acre planted in tomatoes is 350 bushels. We find that we can fill 6300 three-pound cans from product of one acre. Now to supply this 4000-can capacity per day factory for twenty days, say sufficient raw material to fill 80,000 cans, you can readily see that thirteen acres will be sufficient, as the output of thirteen acres, calculating 6300 cans to the acre, would be 81,900 three-pound cans.

In reference to the cost and capacities as mentioned in your article of canning machinery you are correct.

The purchaser obtains with outfit all the necessary instructions for putting up and operating his own cannery; he gets all the so-called secrets of the business, and can in a few days become familiar with its workings. This is unquestionably the most important industry in operation today in our State, particularly when considering the immense force of workers it employs.

The labor employed in the packing trade is composed largely of women, boys and girls. Heretofore the machinery required for the business of canning was held at such figures that but few outside of Maryland and some other States could make the venture. It was also difficult to obtain the processes of the various goods. No one cared to give it away without a consideration, and it was necessary, if one did embark in the business, to obtain a man at a large salary who understood the processing.

In no part of the country has this industry brighter prospects than in the South. At the present time the question is agitating the public mind, especially the investor, who, by his sharp insight of the business world, can see a greater margin on each can of fruit or vegetable prepared in the South over the same kind and class of goods made ready for the market in the North.

It has been said and known to be a fact, with an average crop, the fruit that falls from the trees and the vegetables that are allowed to decay, within the limits of numbers of the counties, would, if canned and sold, pay the taxes of these counties. Think of this enormous waste; then picture to yourselves the extra amount of money that would be saved to these farmers if there were canning factories in operation that would consume the surplus fruit and vegetables that grow so abundant in their sections. What has been true in former

years is liable to keep on for the next half century, unless the hand of man comes to the rescue. An investment of this kind pays large profits on the capital, besides being of much benefit to the city or county where these factories are located.

In Maryland the business of canning on the farms is an established industry, and is so profitable that crops are planted for that purpose alone.

There is nothing to prevent the Southern farmers from embarking in the business. A farm-hand can learn to process very efficiently in a few days, as no previous knowledge is necessary; this assurance answers the principal objection that will arise in the mind of every seeker after information on the subject. A start can be made on a very small capital that would keep several persons busy for six months in the year; that answers the next serious objection. A paying market would be found at home in supplying the wholesale and retail trade, and with a better article than now sold in their markets; this ought to dispose of the last possible objection that can be offered. The machinery can be used with steam-power or set in brickwork with furnace under for fire. The business is clean and profitable. The supplies for one cannery can be grown on a small farm, and where a steam plant is already in operation it can be utilized for canning purposes. The merchants of the South will buy thousands of cases of these goods this year. Why should not these goods be furnished by Southern farmers, instead of by farmers living hundreds of miles away?

A. K. ROBINS & CO.

The Central City of Texas.

WACO, TEXAS, March 24.
Editor Manufacturers' Record:

Waco is known far and wide as the Central City of Texas. Of late it is called the Geyser City on account of the large number of artesian wells, which average 1800 feet in depth, the water being 103 degrees in temperature. The city has two natatoriums, and many visitors enjoy the health-restoring baths, equal to the hot springs in Arkansas. It is a wealthy city, with a steady growth and devoid of everything in the shape of a boom. In fact, the town is rather prudish in some respects, but is waking up to the importance of manufacturing. It is backed by a rich agricultural country. However, great cities are not built by agriculture and commerce alone, and the people are realizing that fact.

A project is on foot to build a new railroad to the pionies in eastern Texas, and eventually extend it due west to develop the great stock-raising industry. Colonel Parrot, Captain Sturgis and other prominent capitalists of this city are at the head of the enterprise.

The city council and the county commissioners contemplate erecting a new iron bridge across the Brazos between the Missouri, Kansas & Texas Railroad bridge and the present suspension bridge, which is not adequate to the demands of trade and the convenience of the people.

Swift & Co. and Nelson Morris & Co., of Chicago, have purchased a site in East Waco for their new cotton-oil mill with a capacity of 160 tons daily. They will fatten large quantities of beesves and ship to their packing-houses in Chicago and Kansas City.

Our city has already quite a number of manufacturing industries, but needs many more. It is the best point in Texas for a grain and paper-bag factory, a wagon and buggy factory and a large printers' supply warehouse. It has the location and railroad facilities for quick and prompt delivery of goods in every direction.

Newcomers and new capital, as well as new enterprises, are springing up every day, without any advertising by the city. It does not crave the name of a boom city, as some of the boom cities in our State

are suffering from the effects of too much boom.

The Orphans' Home of the Methodist Church is to be located in Waco. Our city contributes \$6000 to the home.

Many people in the East think that our State is a vast prairie, with only sheep, cattle, horses and grain fields, but it is the largest lumber-producing State in the Union. Orange, Beaumont and all eastern Texas ship immense quantities of pine, oak, cedar, poplar and cypress lumber to all parts of the world.

Texas is also a great fruit and truck country. Around Galveston, Houston, San Antonio, Rockport, Waco, Corpus Christi and Brownsville thousands of acres are devoted to all kinds of fruits, which go to the Eastern markets from the coast country and to the Western and Northwestern markets from the interior towns.

Waco has the only seed farm in the State. The Texas Seed Co., of this city, is raising acclimated seed for Texas farmers and gardeners, and the enterprise, though a new venture, promises great success. The proprietors will plant about forty acres this year and increase the acreage as their business increases.

The manufacturing problem has been settled in this State as far as fuel is concerned. Heretofore the drawback has been for the want of cheap fuel. Large quantities of lignite or brown coal have been discovered in Houston and Henderson counties. In fact, a thick strata of this coal passes through the State in eleven counties from the Red to the Rio Grande river.

Eventually our people will tan their own hides, ride in vehicles made of Texas timber, wear clothes made from the wool of Texas sheep and cotton, and live at home and board at the same place. It is today the Empire State of the South, and only needs more intelligent, thrifty white people to develop her grand and latent resources.

W. T. CHRISTOPHER.

Affairs at Middlesborough.

MIDDLESBOROUGH, KY., March 29.
Editor Manufacturers' Record:

About three weeks ago the Middlesborough Furniture Factory was destroyed by fire, and I am pleased to be able to tell you that a new company has been organized to at once rebuild and carry forward the business. In the meantime the Novelty Wood Works buildings and machinery have been rented and will be occupied until such time as the new company is ready to go into its own property.

The shoe factory mentioned some time ago is still "hanging fire," though the parties are ready and willing to go to work the moment they can get assurance of sufficient banking capital to carry on their enterprise. By the way, I would suggest that if any of your readers have money which they wish to invest in a banking enterprise, no better field can be found for it than this.

The South Boston Iron Works has received up to date and placed in position sixty carloads of its machinery. About eighty additional carloads are yet to arrive, but are coming forward rapidly, and within the next two months they will all be here and the wheels moving. The foundry department of this concern will begin work within thirty days.

The Watts Steel & Iron Co. has been compelled to bank its fires on account of a very ill-advised strike amongst its workmen. It will employ all the non-striking men upon its steel plant, thus materially hastening its completion. In the meantime it will secure men under such terms and conditions that it will not be embarrassed with another strike. This strike was confined entirely to the stockhouse men. It may be worthy of note here to inform you that the iron made by these furnaces is a high grade of No. 1 forge and No. 2 foundry. The proprietors are more

than satisfied with the results of their investment.

JOHN M. BROOKS.

Developments at Bristol.

BRISTOL, VA.-TENN., March 28.
Editor Manufacturers' Record:

Improvements in this county go right along, notwithstanding the financial pressure. The Holston Valley Railroad, to develop the fine timber and iron ores south of Bristol, began work in February, and the road will be graded and equipped during the year. A large woodworking plant employing 200 hands is to be in operation here within a year, or it will forfeit lands, etc., which have been donated. The Bristol Bank & Trust Co.'s new four-story building will soon be completed; also the Hicks building, Crowell block, courthouse, market-house, King College and large public-school building. The Baptist seminary, costing over \$100,000, will be completed by July, 1893, and a great many fine residences and other buildings are going up.

An English syndicate has been here and, it is said, bought 62,000 acres of iron and timber lands just south of Bristol, paying \$620,000 for it. The land is ten to fifteen miles southeast from Bristol.

J. M. BARKER.

Great Activity in Alexandria.

ALEXANDRIA, IND., April 3.

The United Glass Works, previously referred to in this correspondence, are now constructing their plant at West Alexandria. One building is now completed and ground has been broken for the others. The buildings when completed will consist of three main buildings each 350x150 feet, three warehouses 300x50 feet, three T-shaped 54-blower tank buildings 175x175 feet, three pot houses 50x100 feet, office, blacksmith shop and smaller warehouses. When completed these works will cover thirty acres of ground and employ 1400 men. They will open in September with 500 men, and will advance to the full number as rapidly as possible. The saving in fuel to this plant will be \$200,000 per annum. Arrangements have been made to build 500 houses this summer for the employees of these works, to cost from \$800 to \$900 each, work to commence May 1.

Negotiations are pending for another plant to be located in West Alexandria fully as large as that of the United Glass Works.

The final contracts for the New Albany Rail Mill were signed last week and arrangements made for the immediate construction of the plant, which is to employ 1000 hands by September and 2500 within twelve months. There is a decided increase in real estate activity and lots are in great demand. Some of the companies expect soon to advance prices, as all real estate is steadily advancing. The greatest difficulty that is apprehended is inability to build houses as fast as they are needed, but vigorous efforts are being made to prepare for the work, and Alexandria will be the centre of wonderful building activity this spring and summer.

THE officials of the lighthouse board are making preparations to again let the contract for the construction of the proposed lighthouse at Diamond Shoals, off Cape Hatteras, N. C. The lighthouse board has received from the Signal Service a complete record of the weather for the past twenty years, and charts are being made to ascertain, if possible, the safest period of the year for transporting the caissons to Diamond Shoals when new ones shall have been built. The board is determined to exhaust every means in getting a foundation for the proposed lighthouse. The money available will be ample to commence the structure, but by the time it is completed it will have cost probably over \$1,000,000 and will rank as the greatest achievement in its line and of incalculable value to navigation.

RAILROAD NEWS.

[A complete record of all new railroad building in the South will be found in the Construction Department, on page 191.]

New York, Philadelphia & Norfolk Railroad.

The following is the statement of earnings and expenses of the New York, Philadelphia & Norfolk Railroad Co. for the year 1892 as compared with 1891: 1892, gross earnings \$795,881.05, expenses \$639,434.38, net earnings \$156,446.67; 1891, gross earnings \$788,430.13, expenses \$632,691.05, net earnings \$155,739.08; increase, gross earnings \$7,450.92, expenses \$6,743.33, net earnings \$707.59.

Missouri, Kansas & Texas.

A six weeks' tour of inspection has just been finished by President Henry C. Rouse, of the Missouri, Kansas & Texas. The physical condition of the property is excellent, and the business of the road shows an increase for this year, with a large movement in cattle and other traffic impending. The extension from Boggy Tank to Houston, Texas, is finished and will be turned over to the operating department on April 10. The St. Louis extension is expected to be completed and in operation by the first of June. The tracklaying is about completed, and the road is stone-ballasted for about 100 miles. The ballasting work is progressing at the rate of one and one-half miles per day. The weather has delayed this work very much. Mr. Rouse states: "With the completion of these extensions to St. Louis and Houston, we think we shall have a road which will make us independent to a certain extent from competing lines and relieve us from the embarrassment we have heretofore suffered on that account."

The Southern Pacific's Charter.

A resolution has been introduced in the Texas legislature which recites that the Southern Pacific Company, a corporation chartered by the State of Kentucky, was operating as consolidated lines the Louisiana & Western Extension Railway, the Texas & New Orleans Railway, Sabine & East Texas Railway, Galveston, Harrisburg & San Antonio, New York, Texas & Mexican Railway, Gulf, Western Texas & Pacific Railway. This is alleged to be in violation of article 10, sections 6 and 3, of the constitution. The resolution sets out that by the charter of the Southern Pacific Company it is authorized to lease, operate or control railways in any State in the Union except Kentucky. The attorney-general is instructed to ascertain the facts, and if found to warrant the proceeding to institute suit against the Southern Pacific Company for the alleged violation of the constitution. The article of the constitution said to have been violated reads: "No railroad company, organized under the laws of this State, shall consolidate by private or judicial sale, or otherwise, with any railroad company organized under the laws of any other State or of the United States." All the roads named in the resolution, except the Southern Pacific Co., procured their charters and organized under the laws of Texas. The Southern Pacific Co. was incorporated in 1884 under the laws of Kentucky. Its corporate franchise authorized it to own, lease, acquire and operate railroads in every other State and Territory of the United States, but forbade it to own, lease, acquire or operate any railroad in Kentucky. Under this charter the incorporators or their successors in the ownership of its stock acquired control of Morgan's Line from New Orleans, La., to the Sabine river, near Orange, and then of all the Texas roads named in the resolution from the Sabine to El Paso and from El Paso to California. They were consoli-

dated, and have been used as one continuous line under the name of the Southern Pacific Company and officered almost entirely by men selected by that company.

Norfolk & Western Passes its Dividend.

The resolution adopted by the board of directors of the Norfolk & Western in reference to the quarterly dividend recites that the net income for the year ending December 31, 1892, after providing for all fixed charges, shows a surplus applicable to dividends of \$726,313, or, after deducting the dividend of 1 per cent. paid in October for the six months ending June 30, 1892, there remained a balance of \$296,313. It was, therefore, resolved that the usual semi-annual dividend be not declared, and that the net earnings be applied to liquidating current obligations, including those incurred in the construction of the Ohio extension, now completed. The last dividend, which was paid in October, 1892, was 1 per cent. script convertible into 5 per cent. debentures. In April of 1892 a cash dividend of 1½ per cent. was paid.

Foreclosure Proceedings.

The hearing in the case of the Central Trust Co. of New York vs. the Savannah & Western Railroad Co., Central Railroad & Banking Co., H. R. Comer, receiver, has been postponed by United States Judges Pardee and Bruce. The suit is brought to secure an independent receiver and the foreclosure of the mortgage, owing to default in payment of interest more than six months.

The entire capital stock of the Savannah & Western system, which comprises 623 miles, is owned by the Central Railroad & Banking Co. It is composed of the following lines: The road from Meldrim to Lyons; the road from Americus via Columbus to Birmingham, Ala.; from Columbus, Ga., to Greenville, Ga.; from Griffin to Chattanooga; from Opelika, Ala., to Roanoke, Ala., and from Eufaula, Ala., to Ozark, Ala.

The Central Trust Co., it is claimed, asks a separate foreclosure of these properties, on which about \$7,000,000 of bonds have been issued, with a view to getting control of the most important part of the Georgia Central's property in the interest of the Richmond Terminal.

An Important Case.

A railroad case involving \$12,000,000 is before the Pulaski Chancery Court at Little Rock, Ark. The title of the case is W. B. Worthen vs. the Little Rock & Fort Smith Railway Co. A strong array of legal talent is employed in the suit. Judge John F. Dillon, of New York city, and Col. John M. Moore, of Little Rock, represent the defendants, and ex-Attorney-General A. H. Garland and Judge John McClure the plaintiffs. The object of the suit is for the court to declare that the railroad company is liable to the bondholders of those bonds issued by the State to aid in the building of the railroad, commonly known as the railroad aid bonds. If the case is decided against the railroad company, which is now a part of the Missouri Pacific system, it will settle the liabilities of the railroads in this State which received and negotiated the bonds, amounting in all to about \$12,000,000.

Macon & Northern Bonds.

The bondholders of the Macon & Northern Railroad Co. have received a circular sent out by Alexander Brown & Sons, of Baltimore, asking them to deposit their holdings of the company's 4½ per cent. first mortgage gold bonds on or before May 27 next with a view to taking action for mutual protection. The interest on these bonds, due March 1, was defaulted on. They are guaranteed by the Richmond &

Danville and the Central Railroad & Banking Co. of Georgia, the latter companies also owning all of the capital stock and operating the line of the Macon & Northern under lease. It is therefore contended that the road is a part of the Richmond Terminal system and that its securities are entitled to recognition in any reorganization of the Richmond Terminal companies or properties. Arrangements have been made for the deposit of bonds with the Baltimore Trust & Guarantee Co. in Baltimore and with the New York Guaranty & Indemnity Co. and for the issue of negotiable receipts therefor on and after April 10.

Railroad Notes.

GROSS earnings for the fourth week of March are reported as follows: Norfolk & Western \$201,663, an increase of \$23,043; International & Great Northern \$104,020, an increase of \$9437; Louisville & Nashville \$614,550, an increase of \$40,298—\$1,881,180 for the month, an increase of \$122,773, and \$17,245,346 from July 1, an increase of \$1,055,526; Texas & Pacific \$187,233, a decrease of \$262; St. Louis & Southwestern \$158,200, an increase of \$62,200—\$439,400 for the month, an increase of \$107,400.

THE Ohio River Railroad shows gross earnings of \$795,135 for the calendar year 1892. The operating expenses were \$478,733, leaving net earnings of \$316,402. After paying interest charges, rentals, etc., there remains a surplus of \$72,627, against a surplus of \$23,049 for 1891.

THE Supreme Court of Alabama has dismissed the bill of the stockholders of the Mobile & Ohio Railroad Co., in which they sought to restrain the debenture bondholders from exercising the voting power on the plaintiffs' stock. They had previously given this power to the debenture holders under the plan of reorganization.

THE Atlanta & Florida Railroad, which is again to be offered for sale, will be sold on May 2 at Atlanta, Ga., by T. W. Garrett, the receiver. The road is bonded for \$840,000. Common stock was issued at \$15,000 per mile, and the road is 104 miles in length. The construction company organized to build the road was capitalized at \$400,000, which was actually paid in. The construction company took common stock at the rate of five for one.

THE Southern Pacific will build inclines, etc., above Southport, La., on the Mississippi, and will put ferry-boat on the river for the transfer of both freight and passenger business with the Illinois Central and Mississippi Valley. This will save a haul of thirty miles, and avoid the transferring of freight through the city of New Orleans.

THE annual election of officers and directors of the Gulf, Colorado & Santa Fe Railway Co. has resulted as follows: Joseph W. Reinhart, president, Boston; Daniel B. Robinson, first vice-president, Chicago; George Sealy, third vice-president, Galveston; John M. Bird, secretary and treasurer, Galveston; John J. McCook, general counsel, New York; G. Peck, general solicitor, Chicago; W. K. Gillett, general auditor, Chicago. Board of directors—George C. Magoun, chairman, New York; Joseph W. Reinhart, Boston; John J. McCook, Chicago; George Sealy, John M. Hutchings, Bertrand Adoue, Leon Blum, J. W. Terry, L. W. Jackson, all of Galveston.

THE stockholders of the Jacksonville, St. Augustine & Indian River Railway recently held their annual meeting and elected the following directors: Henry M. Flagler, H. H. Flagler, J. R. Parrott, A. Anderson and J. E. Ingraham. The officers chosen are: President, H. M. Flagler; vice-president, J. R. Parrott; secretary, Jasper C. Salter; assistant secretary, H. S. Jennison; treasurer, Samuel W.

Crichlow. The road is being rapidly built south to Rock Ledge, Fla.

THE Florida Central & Peninsular will build 100 cars at its Fernandina (Fla.) shops.

APPLICATION for a receiver for the Texarkana & Fort Smith Railway has been made at Texarkana, Ark., by J. H. Bemis, of Jefferson, Texas, vice-president of the company. The financial statement of the road shows \$400,000 of capital stock paid in and \$250,000 first mortgage 6 per cent. bonds outstanding. The line extends from Texarkana, Texas, to Little River, Ark., a distance of twenty-eight miles.

THE New York Stock Exchange has listed \$1,815,000 of first mortgage 5 per cent. gold bonds of 1890 and \$617,000 of the issue of 1892 of the Paducah, Tennessee & Alabama Railroad Co., and \$80,000 of first consol mortgage 5 per cent. gold bonds of the Florida Central & Peninsular Railroad Co. The governing committee also authorized the listing of a further amount of Florida Central & Peninsular Co. to a total of \$3,382,000 whenever official notification is given that said bonds are issued for existing first preferred stock.

J. J. FREY, who lately became general manager of the Sherman, Shreveport & Southern, has been appointed general manager of the Atchison, Topeka & Santa Fe.

THE railroad deal between the Norfolk & Western and Lynchburg & Durham Railroads has been consummated in every detail, and the Lynchburg & Durham has passed into the hands of the Norfolk & Western.

THE annual meeting of the stockholders of the Little Rock & Fort Smith Railway will be held on April 27 at Little Rock, Ark.

THE direct export line to Havana, Cuba, via Pensacola, Fla., established by the Louisville & Nashville Railroad Co. in connection with the Pensacola Steamship Line, will be extended to Matanzas and Cardenas. Freight will also be handled to the ports of Sagua, La Grande and Caibarien.

THE London Stock Exchange has listed \$4,447,000 first consolidated mortgage 5 per cent. gold bonds of the Nashville, Chattanooga & St. Louis Railway Co.

THE gross earnings of the International & Great Northern for the calendar year 1892 were \$3,655,439; operating expenses, including taxes and rentals, \$2,954,790; net earnings \$700,649. The railroad was in the hands of a receiver for the first half of the year.

THE following have been elected directors of the Houston & Texas Central Railroad Co.: Thos. W. Hubbard, of New York; C. W. Bein, E. W. Cave, T. W. House, J. M. Lee, C. A. Quinlan, T. Kruttschnitt, J. Atkinson and R. Root, of Houston. The directors elected General Hubbard, president, and C. A. Quinlan, vice-president. The road has been in the hands of a receiver since 1885, and has just been turned over to the Huntington syndicate.

THE Arkansas senate has rejected the bill to establish a railroad commission.

THE stockholders of the Augusta & Savannah Railroad Co. meet on April 26 to determine what course to pursue regarding the reorganization of the Georgia Central, of which their road is a part.

TRAFFIC arrangements are understood to have been effected between the Illinois Central and the Newport News & Mississippi Valley by which the former will use the latter's tracks from Fulton, Ky., to Memphis, Tenn. This will enable the Illinois Central to run solid trains for both passenger and freight from Chicago and St. Louis to Memphis, virtually giving the latter city a new line to the North, East and West.

MECHANICAL.

Practical Mill Tests of Ores.

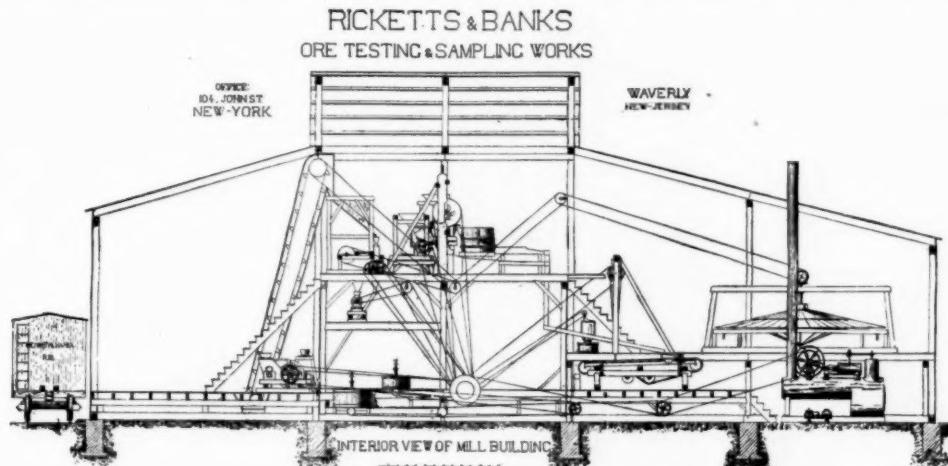
The ore-testing works recently established at Waverly, N. J., by Ricketts & Banks, metallurgists and chemists, of New York, has been kept in active operation ever since its completion. Mining engineers and others interested in the treatment of ores have apparently welcomed the

kind and the best process determined. That there have been so few of these mills is perhaps due to the large investment necessary and to the prevailing opinion that enough of this class of experimental work could not be counted upon to justify a private firm in providing an adequate plant.

A pamphlet has recently been issued descriptive of the plant at Waverly, and the accompanying illustration from it gives a

revolving slime table, jigs, Sturtevant mill, magnetic separator, chlorination barrel, leaching and precipitating vats, filter press, dynamo, power drill for sampling bullion, retorting furnaces and the various other apparatus necessary in a plant of this kind intended for making comparative tests of ores by all processes.

A special side-track has been put into the works to facilitate the handling of large lots of ore. From the time the ore enters



opportunity offered by this mill for having a practical working test made of their material before deciding upon the process or method of treatment to adopt.

Although the rapidly-increasing number of assay and analytical laboratories has kept pace with the demands of manufacturers and others for information as to their processes and products, there has been a strange neglect to supply facilities for prac-

tical concentration tests of ores. The plant includes two other buildings, one of which contains the roasting, smelting and assay furnaces, and the other the dynamo, storage batteries, precipitating vats and other electro-metallurgical appliances. The chemical laboratories are still retained in New York in the same building as the main office, but it is the intention of Ricketts &

the mill its transfer from point to point is to a great extent automatic, and in other ways the arrangement of the plant has been in line with the best modern practice.

A Model Boiler Plant.

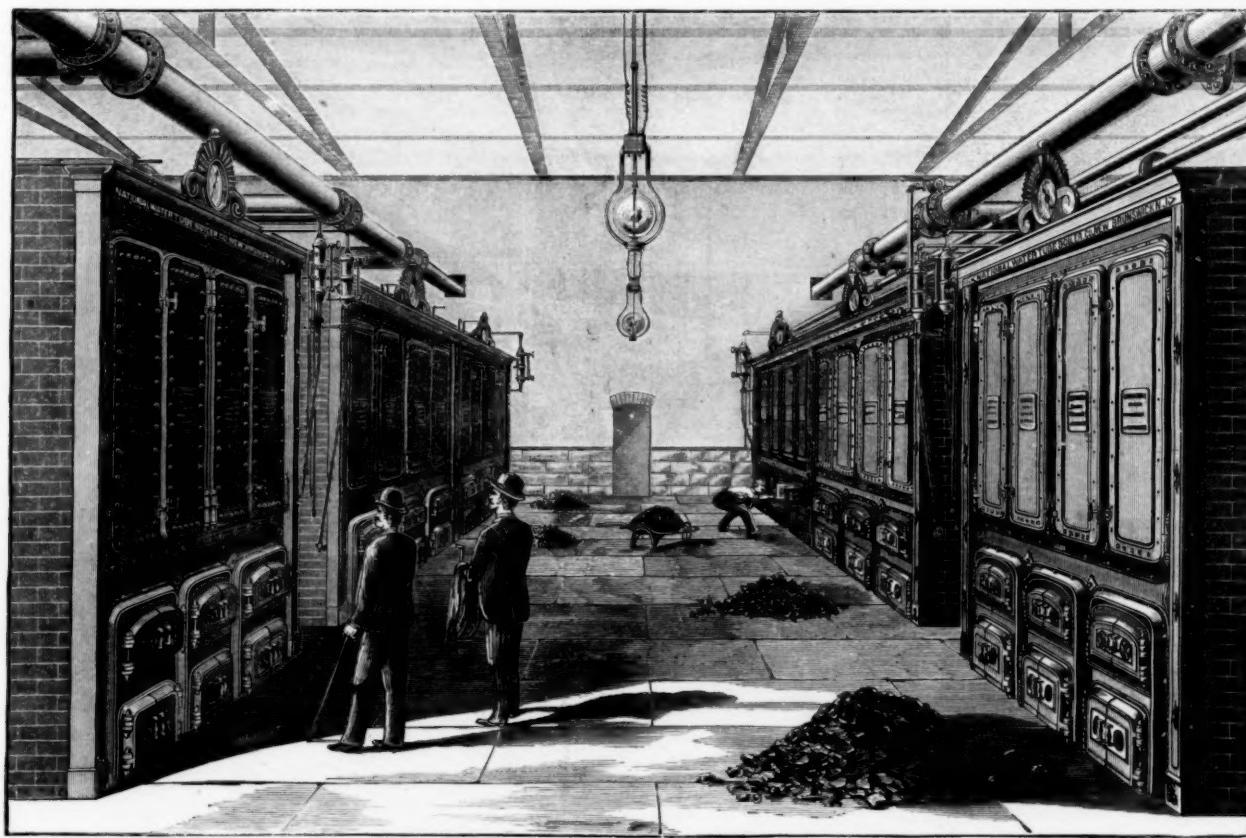
The plant of National water-tube boilers illustrated herewith and now in use at the station of the United States Electric Lighting Co., Washington, D. C., has many im-

portant features of advantage. There are six boilers, aggregating 2500 horse-power nominal, with an effective capacity largely above that amount. The boilers are of the well-known National water-tube type, made at New Brunswick, N. J., and were specially designed to give a large amount of power within a limited space. This is accomplished by massing in each boiler a large amount of heating surface, while retaining all necessary advantages of access for ex-

amination and cleaning both externally and internally. The construction of the National boiler permits this adaptation to local surroundings, and where necessary the space required for a large plant may be greatly reduced. Each of the boilers of this plant has three storage drums, giving ample storage capacity, even where the demand for steam is sudden and heavy. Each boiler is set independently and has independent steam and water connections in order that one or more may be shut down for cleaning and examination without disturbing the others. Each boiler has three furnace openings, allowing one-third of the grate to be cleaned or replenished without disturbing the balance. Ample cleaning doors are provided in the sides of the boiler walls, through which all parts requiring cleaning may be readily reached, and the large door provided at the rear of each boiler setting allows free entrance to the rear of the boiler and flue.

The ordinary working pressure is 140 pounds to the square inch, but the limit of safety is largely above that pressure, and the working pressure may be increased if desired. The engine plant of the United States Electric Lighting Co. comprises compound engines of the most modern type, and with the economy reached by the use of the National boilers and compound engines the best results in modern steam engineering are reached.

THE Gates Desk Co., of Greenville, S. C., is considering the advisability of moving its works to some point where it will have better facilities for increasing its trade and enlarging its works. The thing immediately desired is to raise \$15,000 on bonds and use this amount to enlarge the works. If this amount can be secured in Greenville



A MODEL BOILER PLANT.

tical concentration, milling, roasting and smelting tests of ores. The result has been that many processes have been adopted and plants erected on the results of small laboratory tests, or even without any preliminary investigation, which have been found to be entirely unsuited to the requirements of the ore. In this way many mining companies have met with disaster which might have been avoided could a mill test have been made at a testing works of this

Banks to eventually erect a laboratory building at Waverly, and thus consolidate everything there except the New York office.

The equipment of the works includes a small water-jacketed smelting furnace, reverberatory and Bruckner revolving roasting furnaces, crusher, rolls, stamp mill, Huntington mill, amalgamated plates, amalgamation pans and settler, bucket elevator, automatic samplers, Frue Vanner, Calumet

important features of advantage. There are six boilers, aggregating 2500 horse-power nominal, with an effective capacity largely above that amount. The boilers are of the well-known National water-tube type, made at New Brunswick, N. J., and were specially designed to give a large amount of power within a limited space. This is accomplished by massing in each boiler a large amount of heating surface, while retaining all necessary advantages of access for ex-

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LUMBER.

[A complete record of new mills and building operations in the South will be found in the Construction Department, on pages 190 and 191.]

Lumber Directory.

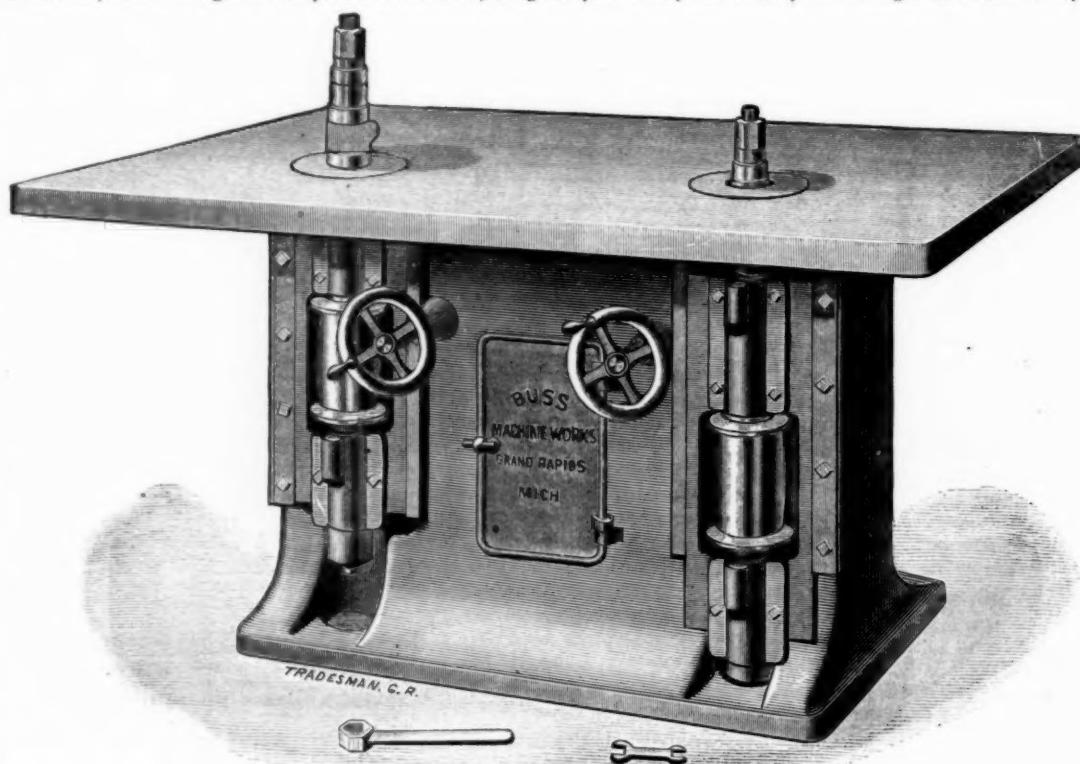
Readers of the MANUFACTURERS' RECORD who may be in the market for lumber of any description are recommended to the directory of Southern lumber manufacturers and dealers which appears among the advertising pages.

Conference of Lumbermen and the Georgia Railway Commission.

The prominent millmen of Georgia met at Atlanta on the 28th ult. to confer with the Georgia Railway Commission in reference to an advance on freight rates on lumber. The meeting was called to order at 9 A. M. H. H. Tift was elected chairman, and C. H. Hill, secretary. The chairman stated the object of the meeting, and, on the suggestion of Mr. Amorous, action on the railroad matter was made a special order. At 10 A. M. the State Railroad Commission met for the purpose of hearing the request of the railroad companies for an average increase in local freights of 25 per cent. When the lumber schedule was reached by each road in its turn it became evident that the roads were in favor of nominal increases only on distances less than fifty miles. The increase would apply only to local shipments in close proximity to the mills, and to this the millmen made no objection. When the hearing of the lumbermen came up Messrs. Amorous, Dixon and Tift made short speeches showing that freight rates on lumber had been steadily increased since 1872; that while no objection was made to the proposed change, an increase on through freight rates would be suicidal to the roads and murder to the mills. Traffic Manager Owen, of the Plant system, agreed with this, and stated that if the commission was to voluntarily give him the right to increase through freights he would decline to use it. The argument, so far as lumber was concerned, was very harmonious. The lum-

bermen adjourned without action on other matters before them.

Every detail of the machine has been given the greatest care and attention, so as to insure solidity and make it suitable for the heaviest class of work, and also to secure the best results in fine work, still another important reason being that the machine may run at a high rate of speed any size desired by the purchaser. The top section of the spindle can also be made to screw in should it be so desired. The yokes carrying the spindle can be lowered so that the top of the spindle will come below the surface of the table. The wheels for adjusting the spindle are placed thereby taking up all the slack as it may occur. However, the most important feature is that it carries the line of the under belt up near to the centre of the spindle pulley; consequently the belt surface on the pulley is much better, being nearly on a straight line with the top of



NEW DOUBLE-SPINDLE VARIETY MOLDER.

without any jar.

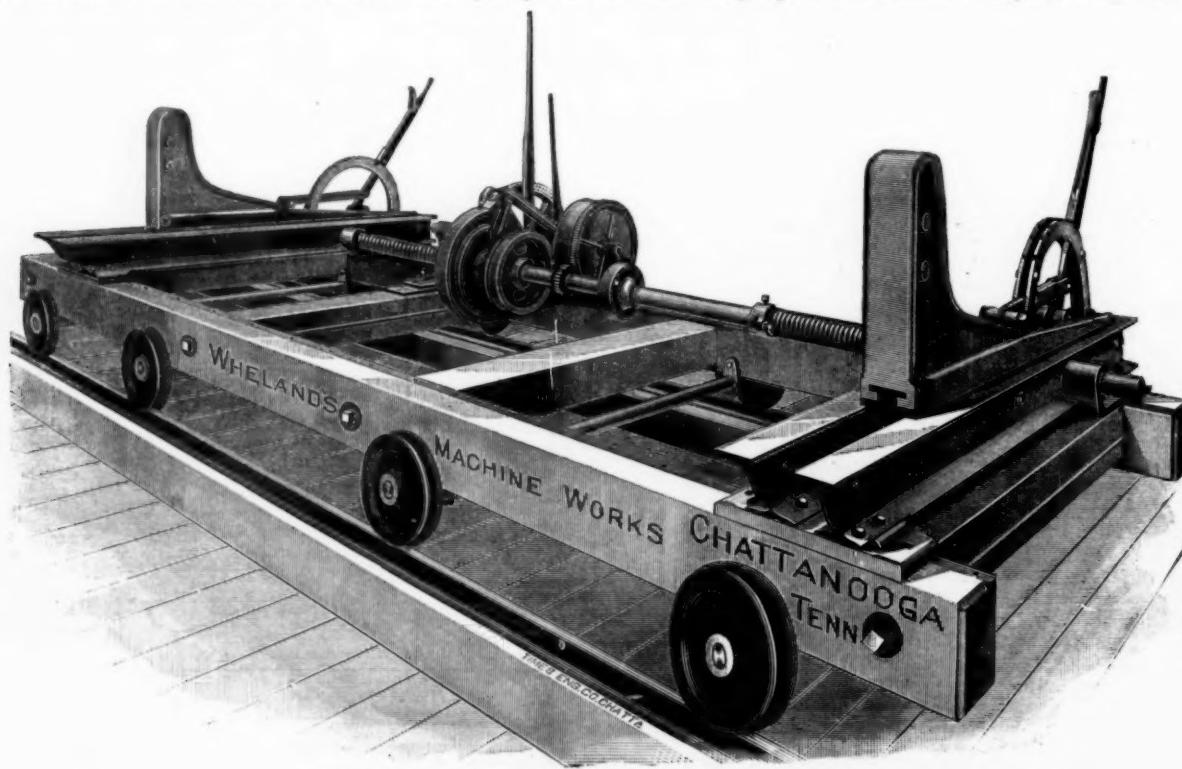
The frame is cast in one piece so as to insure rigidity. The yokes carrying the gib have a long bearing in the latter, and are provided with improved oil boxes. The gib in which these yokes are held in the main frame are carefully scraped to a

in a convenient position for the operator, and are provided with locks, so when the spindles are at a desired height there is no possibility of their being changed. The plate is made very large and provided with plates about the spindle, and can be removed for using larger or smaller collars or

the belt. This permits the machine to be run at a speed of 6000 revolutions without any noise or jar.

Improved Steel Head-Block.

The accompanying illustration shows an improved steel head-block with compound



CARRIAGE WITH FRACTIONAL SET WORKS AND STEEL HEAD-BLOCKS.

New Variety Molder.

The accompanying illustration shows a new double-spindle variety molder recently designed and constructed by the Buss Machine Works, of Grand Rapids, Mich.

solid bearing, and as their position is in the front of the frame, the strain of the belt has no effect. The bottom or step of the spindle rests in a well of oil to prevent any possibility of running dry. The spindles are made of hammered steel two inches in diameter, and the top of the spindle that holds the collar can be made

knives. The machine is provided with a tool cupboard.

The countershaft for this machine is made with a double shaft, one carrying the tight and loose and driving pulleys, and the other carrying two friction pulleys or tighteners. By this means it is possible to run the machine with an endless belt,

fractional set-works and self-receding knees, manufactured by Wheland's Foundry and Machine Works, of Chattanooga, Tenn.

The head-blocks are made of two steel "I" beams firmly bolted together, making them light, and yet have ample strength for the heaviest timber, and, being steel, they are not liable to be broken off at the

points, as are the common cast-iron blocks. The head-blocks, racks and pinions are cut gear, made from solid stock and fit perfectly, admitting of no lost motion. The knees are heavy in order to resist shocks from heavy logs, and are made to set forward five inches for taper sawing, and to take on any of the standard dogs in the market, and the front will be faced with steel when desired at a small additional cost.

The set-works are independent of the blocks and can be bolted anywhere on the carriage. The ratchet wheel is twenty inches in diameter, three inches face, and the teeth are machine-cut and set accurately to sixteenths; it is moved by two steel pawls, and a full stroke of the lever back and forward sets two and a-half inches. The arch is marked and drilled to set any thickness from three-quarters of an inch to two and a-half inches by sixteenths. The indicator wheel is a cut gear working into a cut gear pinion, and the dial is brass and is plainly marked and convenient to the settler, so that he has no trouble seeing it. The first figures on the face of the dial is ordinary measure, giving inches and fractions of inches such as are usually marked on the head-blocks. The other three rows are laid off for common sizes of lumber, with the saw kerf added—the first one for one-and-a-quarter-inch lumber, the second for one-and-a-half-inch lumber, the third one for two-inch lumber, so that the sawyer knows how many plank of a given size his timber will make without the trouble of making the calculation. This will be found a great convenience to the settler. The knees are recessed by coil springs and controlled by a brake wheel; by raising a lever the pawls are thrown out of gear, when the blocks can be run back as desired and stopped with the brake. There is also a stop on the block to prevent the rack being thrown too far back.

The set-rod or shaft is two and seven-sixteenths inches in diameter, and is slotted the entire length so that the blocks can be set at any point on the carriage. The material and workmanship are thoroughly good, and as the machine contains all the modern improvements, it is equal to any on the market. The carriages are also made with blocks connected by a log beam of any length desired, and a gage roller with husk frame can also be supplied, thus especially adapting the machine for cutting Southern pine.

Southern Lumber Notes.

THE Mears keg and box factory, of Wheeling, W. Va., was destroyed by fire on the 29th ult. The loss will likely reach \$5000, on which there was only a partial insurance. The capacity of the cooperage was 20,000 kegs per week.

THE frame work for the new circular saw mill of C. W. Pike & Co., of Wilmington, N. C., has been erected and work is now progressing on the timber pen. The company will also erect a brick dry-kiln, and will make it as near fire-proof as possible. The mill will be ready for operation by June.

MESSRS. ROBERT R. SISER & Co., wholesale lumber merchants, of New York, are negotiating for docks at Fernandina, Fla., and it is said will locate permanently at that port.

NOTICES signed by the following lumber companies—Farnsworth Lumber Co., Pascoa Lumber Co., T. N. Dantzler Lumber Co., W. Denny Lumber Co. and Moss Point Lumber Co., all of Moss Point, Miss.—have been sent out calling a meeting of all log men on April 8 at Hattiesburg, Miss., to organize a boom company, having for its object the running and driving of logs loose to the mill.

A NEW stock company has been formed at Middlesborough, Ky., for the purpose of rebuilding the Middlesborough Furniture Factory which was recently destroyed

by fire. Charter has been secured and officers chosen as follows: Jno. M. Brooks, president; L. L. Robertson, vice-president; L. Van Putten, secretary, and W. E. Baker, treasurer. The new company has leased the Novelty Wood Works, to which considerable new machinery will be added.

MESSRS. MILLER & LAMBERT, who have recently completed a saw mill at Poplarville, Miss., expect to add a planing mill and dry-kilns in the near future. They expect to average 25,000 feet of lumber daily in the saw mill, running about one-third of it through the planing mill.

J. C. JOHNSON's saw mill at Cypress, La., together with 5000 acres of land, has been purchased by Mr. Jno. Brogan, of New Orleans, for \$5000 in cash.

MESSRS. GILCHRIST, COLEMAN & VINSON, of Morgan City, La., have decided upon the erection of a large shingle mill at that place. They have purchased site and will invest about \$25,000 in the enterprise.

THE Bowman Lumber Co. has purchased about 5000 acres of poplar timber land on Robinson and Lick creeks, W. Va., from Messrs. Watts, Stollings & Johnson. This is a very good timber property, and it was sold at so much per tree, not by the acre.

EASTERN parties have purchased from J. T. Milner, of Birmingham, a tract of 20,000 acres of pine timber land in Washington county, Ala., for \$120,000. This property is a very valuable one, and the purchasers intend a thorough development of it by the erection of saw mills.

THE steamship Seminole, from Jacksonville, Fla., to New York city, loaded 200,000 feet of lumber, five carloads of shingles and 2000 crossties last week.

A PLANT to manufacture 500 barrels daily has been established at New Berne, N. C., and operations will at once commence. A company to operate the factory has been formed with B. B. Neal, secretary and treasurer.

THE new board of the Baltimore Lumber Exchange met on Monday last. The board comprises the following gentlemen: Messrs. E. B. Hunting, H. H. Duker, P. M. Womble, S. P. Ryland, R. Merryman, W. D. Gill, Jr., H. M. Harriman, R. A. Taylor, W. T. Lawton, Alvin Carroll, A. F. Gilbert and Richard W. Price. The following are the officers of the exchange: Francis E. Waters, president; Lewis Roebel, vice-president, Louis Roehle, treasurer, and W. H. W. Krebs, secretary. Mr. E. W. Taylor was elected a member of the exchange. The new standing committees were appointed.

THE National Stave & Cooperage Co. has purchased seventy-five acres of land adjoining Memphis, Tenn., and erected a large building for manufacturing purposes.

MR. I. SNIDER, of Kokomo, Ind., has about completed the buildings for his barrel factory near Elmwood, Tenn., and will put in complete outfit of the latest improved machinery.

THE Pine Lumber Manufacturers' Association held a meeting last week at the rooms of the Mechanics, Dealers and Lumbermen's Exchange in New Orleans for the purpose of fully discussing and finally deciding upon their attitude in the matter of the proposition from the Factory and Mill Owners' Association. The matter of the schedule was thoroughly canvassed, and it was finally agreed to accept the proposition offered by the retail men. The agreement as it now stands embodies the provision that the wholesale men will refrain entirely from the individual or building trade, and in return the retail dealers bind themselves to deal exclusively with the wholesale mills. The schedule of prices is advanced from \$1.00 to \$1.50 per thousand, according to the new classification. It is understood that the Breckenridge Lumber Co., which has hitherto withheld from the retail asso-

ciation, will act now in perfect accord with the other firms.

MR. D. M. LISCOMB has purchased a large tract of timber land on Dry run, W. Va., and will build a mill at once for sawing same.

A TRACT of over 12,000 acres of timber land on Holly river, in West Virginia, was sold last week by Elihu Hutton, of Randolph county. The purchasers were a number of Eastern capitalists.

MR. W. G. BERING's new mill at Velda, Texas, has been completed and operations have commenced.

LUMBER MARKET REVIEWS.

Baltimore.

OFFICE MANUFACTURERS' RECORD, BALTIMORE, April 6.

The general features of the lumber and timber market at the port of Baltimore may be considered as quite encouraging, and while the volume of trade shows no remarkable increase over last year, there is a more decided character in the market, and commission men and others consider the outlook good. Sales of lumber and timber during the past four seasons have been quite uniform, and prices have been regular and firm in tone. There is a growing demand for North Carolina pine, and every steamer for Europe takes out more or less of this popular wood. The demand is now very general, and the market has been visited by buyers from the Dominion of Canada, who have purchased liberally in the past week. Receipts of yellow pine continue light, and the demand in local circles is good, with values firm, and showing a hardening tendency. In air-dried lumber values are steady at the late shading in prices. Box lumber is in good demand, with receipts fair and prices firm; cypress steady, with very little inquiry, and prices unchanged. There is a fair business reported in white pine, and the demand is better for choice grades, with prices very steady. In hardwoods the current demand is fair from all the regular sources, while stocks in some fancy woods are very much broken. Shingles are in better demand, with fair receipts and prices unchanged. Planing mills are doing a moderate trade, while prices still show a narrow margin of profits. The box factories are working up to their full capacity, and are generally well supplied with orders.

The following list represents the prices current at this date:

VIRGINIA AND NORTH CAROLINA PINE.

5-4x10 and 12 No. 2, kiln dried	\$17.00@ 17.25
4-4x10 and 12 No. 1.....	19.75@ 20.25
4-4x10 narrow edge, No. 1, kiln dried	19.25@ 17.75
4-4 wide edge, " "	22.50@ 23.50
6-4x8, 10 and 12.....	16.00@ 17.00
4-4 No. 1 edge flooring, air dried	13.00@ 14.00
4-4 No. 2 edge flooring.....	13.00@ 14.00
4-4 No. 1 12-inch stock.....	16.00@ 17.50
4-4 No. 2 12-inch stock.....	13.00@ 14.50
4-4 edge box or rough wide	9.00@ 10.00
4-4 " " (ordin'y widths)	8.50@ 9.00
4-4 " " (narrow).....	8.00@ 9.00
4-4x12 "	10.50@ 11.00
3/4 narrow edge.....	6.00@ 7.00
3/4 all widths.....	8.00@ 8.50
3/4x16 wide.....	8.50@ 9.50
Small joists, 3/4-12, 14 and 16 long	8.50@ 9.50
Large joists, 3-16 long and up.....	10.00@ 11.00
Scantling, 2x3-16 and up.....	10.00@ 11.00

WHITE PINE.

1st and 2d clear, 4-4, 5-4, 6-4 and 8-4.	48.50@ 51.50
3d clear, 4-4, 5-4, 6-4 and 8-4.	43.00@ 44.00
Good edge culls.....	14.50@ 15.50
Good stock.....	17.50@ 17.50

CYPRESS.

4-4x6, No. 1.....	20.00@ 22.00
4-4x6, No. 2.....	15.00@ 17.00
4-4x6, 16 feet, fencing.....	13.00@ 14.00
4-4x6, rough.....	9.00@ 10.00
4-4 rough edge.....	9.00@ 10.00
4-4 edge, No. 1.....	18.00@ 20.00
4-4 edge, No. 2.....	13.00@ 14.00

HARDWOODS.

Walnut.	
1/2 Nos. 1 and 2.....	75.00@ 100.00
4-4 Nos. 1 and 2.....	90.00@ 100.00
5-4, 6-4 and 8-4.....	95.00@ 110.00
Nos. 2 1/2, 3 and 4.....	125.00@ 130.00
Newell stuff, clear of heart.....	125.00@ 130.00
Culls.....	30.00@ 35.00

Oak.

Cabinet, white and red, plain sawed and good 1 and 2, 8 in. and up, 12 to 16 feet long, 4-4.....	35.00@ 40.00
Quartered white, 1 and 2 quality, all figured, 6 in. and up wide, 4-4.....	50.00@ 53.00
Culls.....	10.00@ 15.00

Pine.

Nos. 1 and 2, 3/4.....	22.00@ 24.00
3/4.....	27.50@ 30.50
Nos. 5, 6 and 8-4.....	30.00@ 32.50
In yellow pine cargoes, log run stock.....	12.00@ 16.00
Culls.....	12.00@ 14.00

SHINGLES.		
Cypress, No. 1 hearts, sawed, 6x30.	7.50@	7.75
No. 1 saps, sawed, 6x30.	5.50@	6.00
No. 1 hearts, shaved, 6x30.	6.50@	7.00
No. 1 saps, shaved, 6x30.	5.50@	5.25
LATHS.		
White pine.....	2.70@	2.75
Spruce.....	2.35@	2.40
Cypress.....	2.15@	2.20

Norfolk.

[From our own Correspondent.]

NORFOLK, VA., April 4.

The market for lumber at this port is characterized by great activity, and in all branches of the industry there is generally a firm tone prevailing. The situation at present is full of encouragement and orders are coming in rapidly, the demand being really in excess of the supply at the moment. In North Carolina yellow pine prices hold firm at the list figures, while stocks are greatly reduced in certain sizes. All desirable lumber is taken on arrival, and, under the present conditions, the list of values continues firm and hardening. At all milling sections in the interior there is a remarkable activity present, and mills are fully taxed to keep up with their numerous orders. In air-dried lumber there is a brisk demand, receipts being light, and all desirable boards are held at outside figures. The planing mills here and at all adjacent points are fully employed, and their business is of a most satisfactory character. There is a very improved demand for lumber for building purposes, and contractors and builders anticipate more work in their line than for a number of years past. During the month of March fifty-one building permits were issued. A fire destroyed Ferebee's saw mill at Bell's Crossing, on the Norfolk Southern Railroad, on the 1st inst., together with a large lot of lumber.

Kiln-dried North Carolina pine lumber f. o. b. vessel at this port is quoted as follows:

5-4 rift No. 1.....	\$27.50@
5-4 rift No. 2.....	16.00@
5-4x10 No. 1.....	20.00@
5-4x10 No. 2.....	20.50@
5-4x12 No. 1.....	15.00@
5-4x12 No. 2.....	16.00@
5-4 edge No. 1.....	17.50@
5-4 edge No. 2.....	13.50@
4-4 rift No. 1.....	25.00@
4-4 rift No. 2.....	15.00@
4-4x10 No. 1.....	15.00@
4-4x10 No. 2.....	19.50@
4-4x10 No. 3.....	15.00@
4-4x12 No. 1.....	15.00@
4-4x12 No. 2.....	15.00@
4-4 edge No. 3.....	9.50@
5-4 edge No. 3.....	10.50@
4-4x8, 10 and 12 culms or box.....	9.00@
4-4x8, 4 edge, culm or box.....	8.50@

In carload lots \$1.00 additional per thousand on Nos. 1 and 2, and fifty cents additional per thousand on No. 3 and box.

Savannah.

[From our own Correspondent.]

SAVANNAH, GA., April 4.

The business of this port in lumber and timber has been steadily increasing during the month of March, and there is at present a very improved condition in all departments of this industry. The demand for dressed lumber is increasing and is greatly in excess of the same period last year. In the list of values there is a steadier tone, and the various reports coming from the different saw-mill sections of the interior of the State are very satisfactory. Mills are generally well supplied with orders, and the average of prices run on flat-sawed long-leaf pine as follows: Firsts and seconds, \$14.00; star, \$12.00, and common lumber \$9.00 per thousand feet. The booms around Darien, Ga., are well supplied with timber, there being over 25,000,000 feet on hand at present. During the month of March 7,134,437 feet were shipped foreign and coastwise, and over 5,000,000 feet arrived from the up-country, including square, scab and sawn timber. At this port there is considerable improvement, and the trade of Savannah is now in fair shape, the demand being very active from Northern ports, with considerable foreign business. The shipments during the past week were to New York, Philadelphia, Baltimore and the West Indies, aggregating over 2,000,000 feet of lumber and crossties. Mills are generally well supplied with orders, and the larger sizes are difficult to obtain at advanced prices.

In regard to lumber freights sail rates are firm at ruling prices. To the West Indies and Windward rates are nominal; to Rosario, \$14.00 to \$15.00; to Buenos Ayres or Montevideo, \$12.50; to Rio Janeiro, \$13.50, and to Spanish and Mediterranean ports, \$11.00 to \$11.50; to United Kingdom for orders, £4.5s. per standard. To Northern ports \$4.50 to \$5.00 is the range; steamers to New York and Philadelphia, \$7.00; to Boston, \$8.00, and Baltimore, \$5.50.

Charleston.

[From our own Correspondent.]

CHARLESTON, S. C., April 4.

The lumber and timber market has shown more activity during the week than usual, and operators engaged in the industry are quite encouraged by the outlook. The demand from Northern ports is better, and also from the West Indies there is more inquiry. Among the shipments of lumber this week were 43,000 feet to Baracoa, 1,900,000 feet to New York and 255,000 feet to Philadelphia—total 2,298,000 feet. The reports from milling districts continue favorable, and stocks are generally ample for the present inquiry. Prices are firm for all desirable lumber as follows: Merchantable \$14.00 to \$16.00 for city sawed and \$12.00 to \$14.00 for railroad; square and round timber \$9.00 to \$13.00 for railroad and \$8.00 to \$11.00 for raft; dock timber \$4.50 to \$6.50 and shipping \$8.00 to \$10.00. Shingles are steady at \$5.00 to \$7.00.

EXPORTS OF LUMBER FROM CHARLESTON FROM SEPTEMBER 1, 1892, TO MARCH 31, 1893.

Exported to	1892-'93. Feet.	1891-'92. Feet.
New York.....	23,275,931	10,165,867
Boston.....	634,740	
Philadelphia.....	2,744,292	4,584,000
Baltimore.....	840,000	753,978
Other United States ports.....	1,009,600	1,335,000
Total coastwise.....	28,506,963	25,841,845
Great Britain.....		
Palermo.....		
France.....		
West Indies.....	1,660,369	1,952,300
South America.....		177,000
Nova Scotia.....		
Other foreign ports.....		578,174
Total foreign.....	1,660,369	2,717,474
Grand total	30,167,323	28,559,319

Pensacola.

[From our own Correspondent.]

PENSACOLA, FLA., April 3.

Business during the past week in the lumber and timber industry has been characterized by less activity than usual. The demand has been light, and in sawn timber the shipments have been moderate. Sawn timber from Choctawhatchie is quoted on a basis of eleven and a-half to twelve cents, and at Ferry Pass at eleven and a-quarter cents. The business in lumber continues very encouraging, and the demand throughout the week has been mostly foreign. The shipments of lumber and timber during the week aggregated nearly 6,000,000 feet, mostly for the United Kingdom and Continent, while a very large cargo was shipped to Alexandria, in Egypt. This port is rapidly coming into prominence as the first among the Gulf ports, and for shipments of large cargoes perhaps exceeds any other. The Spanish steamship *Mardileno* was cleared on the 29th ult. by W. S. Keyser & Co., with a cargo of yellow pine timber and lumber consisting of 1,693,000 feet. H. Baars & Co. cleared on the same day the Norwegian steamship *Ulriken* with a cargo of 1,542,000 feet yellow pine timber and lumber for Alexandria, in Egypt. This is a new port only opened a short time ago to our timber, and is another instance of the rapid growth of Pensacola's trade in lumber and timber.

Mobile.

[From our own Correspondent.]

MOBILE, ALA., April 3.

The general condition of the lumber trade of Mobile has shown but little change during the week, and there is a fair demand,

with a good volume of business. In hewn timber the outlook is a shade more encouraging, owing to the increased consumption in Europe, but, as prices are considerably cut by exporters, the general features of the business in timber will not improve. There is an active demand for lumber from the West Indies, Central America and Europe, and the shipments since the commencement of the commercial year on September 1, 1892, have shown a material increase over the preceding year. During the week the shipments have been mostly to Cuba, Jamaica, Rio Janeiro and to the continent of Europe. The total exports of hewn timber since September 1, 1892, aggregate 1,396,600 cubic feet, against 1,284,821 feet for the corresponding period in 1891. Of sawn timber 1,345,055 cubic feet were exported since September 1, 1892, and for the same time in 1891 the shipments amounted to 1,216,331 feet. The business in lumber has been showing a remarkable increase over other years, and during the past seven months 47,810,663 superficial feet have been exported, against 35,072,747 feet for the corresponding months of 1891-92. Up to the first of April the total shipments of lumber and timber since September 1, 1892, aggregate 79,260,000 superficial feet, against 65,272,747 feet for the corresponding period of 1891-92.

Beaumont.

BEAUMONT, TEXAS, April 1.

The demand for lumber throughout this section during the month of March has been fairly active. Prices have generally been very good, and the cut of at least two mills in this city has been larger than that of February. The Texas Tram & Lumber Co.'s mill made probably the best sawing record for the month of March. The mill was run twenty-six and three-quarter days out of twenty-seven, and the largest cut in one day was 108,895 feet, log measure, while the lowest cut for one day was 90,160 feet. The month's work exceeded 2,700,000 feet, log measure, being an average of something over 100,000 feet for each working day. While the cut of lumber was larger, that of shingles has showed up well, and the Long Manufacturing Co. has come in with a fine record. About the largest cut of shingles for one day ever made by a mill in this section was that of the above company. On the 24th of March its mill cut 239,750 shingles, which was made with two Challoner double blockers and one small hand machine. Of the general market as it stands today the Beaumont *Journal*, in its weekly review, says: "The market continues fairly active. In the general movement dressed stock, flooring, siding, etc., is going off quite freely, the demand having considerably increased during the past few weeks. Texas is now the principal buyer, with occasional orders from Nebraska and the Territory. The demand for piece stuff is not easy to supply, stocks being low and broken. Prices are firm, the advance being well maintained. The demand for shingles is rather quiet, but there has been no decline in prices." The lumbermen of this section had a conference with C. W. Bein, traffic manager of the Southern Pacific lines, on Wednesday last regarding freight rates to Nebraska and points in other States. After stating the disadvantage at which mills on the Southern Pacific are placed with respect to the Nebraska trade, Mr. Bein promised to take all the matters before a general meeting of freight agents to take place in St. Louis next week, and endeavor to effect the desired reforms.

THREE hundred cases of goods containing part of the Mexican exhibit at the World's Fair were recently received at Laredo, Texas. The remainder, some two hundred cases, is expected to arrive shortly, and will be immediately forwarded to its destination.

Beauties of the Homes of Atlanta.

By W. W. Goodrich.

Atlanta is a phenomenal city. The wonderful recuperative powers inherent in the master minds of this progressive city has stood it many good turns in the past and is at the front today, crowding out the pessimists, supplanting them and their narrow views, and erecting upon their small ideas great and grand monuments to a future as well as to this present generation.

Beautiful homes are all about; practical contentment assures the observer on every hand "that life is worth living," and that Atlanta's homes are models of rare elegance, bliss and "home, sweet home."

The best building materials to be had in the "known world" are all native to Georgia, the Empire State of the South, and are all within a radius of fifty miles of Atlanta. These materials are to be seen everywhere "in this city of charming homes." And none is too humble but that some one or more of Georgia's native building materials are in its make-up and form an integral part of the harmonious whole of Atlanta's homes, that are known far and wide as being the best and most carefully studied and constructed, and arranged in their entirety, more so than in any other city of our common country.

The diversified forms of architecture are here blended.

The many inventions for good health and labor-saving appliances for the housewife are in every home.

It is the progressive study of Atlanta's architects, and many of them are educated, practical men, thoroughly versed in its many intricate ramifications, to design for their client only that which will be an additional ornament to Atlanta's excellent structural monuments that so attract our Northern and Western friends, and they go from us to their own homes with the most pleasing reminders of the hospitality of our Southland, that each genuine architect, each real lover of his profession, who is so thoroughly imbued with his chosen calling, banishes all other thoughts from his mind and with his brother professional urges the many clients to use only native Georgia products, native Georgia labor, home industry and home labor, and thus imbued we have a style of architecture that is gradually being woven from the warp and wool of the past and present into a beautiful architectural mantle that so handsomely adorns Atlanta and her progress. Atlanta is thus garmented on every hand. The cottage homes of Atlanta and her beautiful suburbs are her pride. The thrift of a city is in its suburban population, because any city without suburbs is a dead, non-progressive affair, not worthy to be called even a village. The many suburbs are taking on metropolitan airs. Electrical lines are running and being planned to run everywhere.

The sound of the hammer and the merry whiz of the saw greet the ear, all denoting progress, thrift and a sturdy belief in the greatness of our claim that Atlanta is the magic city of the South, and that her destiny is to be, and will be, the Chicago of the South. With this belief each one of her thousands stands shoulder to shoulder—a steady, solid phalanx of veterans ready to battle for Atlanta's future, Atlanta's greatness and Atlanta's grandeur.—Atlanta *Journal*.

A Good Record.

During the week ending March 25 the Salem furnace at Salem, Va., produced 1015 tons of pig iron of 2240 pounds. The best day's work was 159 tons, and average through the week 145 tons per day. The consumption of coke per ton of iron averaged 2021 pounds, of iron ore 4715 pounds and of limestone 1475 pounds, the yield of the ore being 47.51 per cent. During the entire month of March the

average daily output was 128 tons. This furnace is 14½-foot bosh by seventy-five feet in height, with a rated capacity of 100 tons daily. Mr. F. E. Bachman, the manager, thinks a record of one ton to about eighty cubic feet capacity will compare well with the work of any furnace in the country.

Iron Markets.

There is practically no change in the condition of the pig-iron market in the principal cities. Prices are holding about the same as last week with only a moderate demand, except in Buffalo, Boston and New York. At these points buying has been more brisk and inquiries more numerous.

In Chicago there is no apparent improvement. Consumers are buying steadily to fill their immediate wants, but no large orders have been placed. Northern coke irons have advanced a fraction, but Southern brands hold the same as before. Soft irons are quoted \$13.35 to \$13.60 for No. 1 soft and \$12.85 to \$13.00 for No. 2 soft.

In Cincinnati no perceptible change is noticed, though the leading commission houses booked heavy orders during March. The prices ruling now are practically on bed rock, and this is verified by the fact that a number of heavy orders have been booked without concessions. Southern coke No. 1 foundry is quoted \$13.25 to \$13.50, and No. 2 foundry \$12.00 to \$12.25. Gray forge holds steady at \$11.00 to \$11.25, and mottled is selling \$10.75 to \$11.00. Tennessee charcoal No. 1 is firm at \$16.00 to \$16.50, and car-wheel iron \$17.00 to \$17.50. Alabama standard car-wheel charcoal still brings \$18.00 to \$19.00.

In St. Louis the market has been unusually quiet this past week. A liberal buying movement was expected, but it has not yet come. Prices rule: Southern coke No. 1, \$13.75 to \$14.00; Southern coke No. 2, \$12.50 to \$12.75; Southern coke No. 3, \$12.25 to \$12.50; Southern gray forge, \$11.50 to \$11.75; Southern charcoal No. 1, \$15.50 to \$16.00.

Louisville has witnessed little buying, but prices have remained steady. Better trade must come, however, as car companies, rolling mills and pipe companies are running full time, and many with orders booked well ahead. Gray forge for both early and late delivery can be had for \$8.00 f. o. b. Birmingham, and in this grade and mottled the largest sales of the week have taken place. Charcoal irons are not much called for, No. 1 foundry being quoted f. o. b. Louisville \$15.00 to \$16.00, and good car wheel \$17.50 to \$17.75. Southern coke irons are bringing for No. 1 foundry \$13.00 to \$13.25; No. 2 foundry, \$12.00 to \$12.25; No. 3 foundry, \$11.00 to \$11.25, and gray forge, \$10.75 to \$11.00.

In the Philadelphia market the volume of business has not been so great as during the preceding week, but sales have been scattered among a larger number of buyers. There is still a scarcity of No. 1 soft and No. 1 foundry in Southern brands. Alabama coke, No. 1 foundry, is quoted at \$15.00 to \$15.25 and No. 2 at \$14.00 to \$14.25.

MR. STEPHEN N. NOBLE, general manager of the Woodstock Iron Co., of Anniston, Ala., has resigned his position and will take charge of the Jenifer Iron Co.'s furnace at Jenifer. Mr. Noble has purchased a half interest in the last-named property and will give it his entire attention. A special grade of charcoal pig iron will be turned out.

THE steamship *Heathfield* arrived at Fernandina, Fla., on the 26th ult., and will load phosphate for the French Company. The Moorish Prince is reported in the harbor, and will load phosphate for the Dunellen Company.

COAL AND COKE.

Smokeless Combustion of Coal.

Recent reports from Germany state that the difficulty of burning coal without the production of smoke seems to have been completely accomplished, and the experiments leading to this result have excited a wide interest among several large industrial enterprises, including, with others, the North German Lloyd, the Hamburg-American Packet Co., while the Vulcan forges of Stettin have adopted this new system of smokeless combustion. This system differs from all others which have been employed for the purpose up to the present time, and it has been called "the automatic and smokeless combustion of powdered coal."

The process is an exceedingly simple one. The fuel, instead of being introduced into the fire-box in the ordinary manner, is first reduced to a powder by centrifugal pulverizers of any construction. In the place of the ordinary boiler fire-box there is a combustion chamber in the form of a closed furnace lined with fire-brick and provided with an injector similar in construction to those used in oil-burning furnaces. This chamber has two openings, one on the centre line and in the place of the usual furnace fire-door, the other on the opposite side. The orifice of the nozzle is placed in this latter hole and throws a constant stream of the fuel into the chamber. This nozzle is so located that it scatters the powder throughout the whole space of the fire-box. When this powder is once ignited, and it is very readily done by first raising the lining to a high temperature by an open fire, the combustion continues in an intense and regular manner under the action of the current of air which carries it in. This current is regulated once for all by the amount of powder required for the production of the heat led off to the boiler and the evaporation of the weight of steam demanded.

The powder is stored in a box, whence, by means of a very ingenious arrangement, the air under pressure carries it to the fire-box. It is, in fine, a system quite analogous to those fire-boxes where boilers are fired with hydrocarbons. Numerous applications and long experience has established this latter practice on the Southeastern Railway of Russia and the steam vessels of the Caspian sea.

In the system under consideration the coal, that it may be drawn out and carried along by the steam or air under pressure, needs to be finely pulverized, and that is why such success has been attained in the use of coal that was already finely divided.

The air and fuel are therefore intimately commingled in the zone of combustion, while the air, having served as a vehicle for carrying the powder, loses the greater portion of its velocity. It can readily be seen that in this process the combustion of the fuel is complete, for each particle of coal in suspension in the fire-box is in contact with the oxygen required for its consumption, which is thus proven to be a state of affairs far less difficult of attainment than is usually imagined. Besides, tests have thoroughly demonstrated the truth of these assertions, since no trace of smoke is perceptible.

It may also be remarked that the air entering the combustion chamber may be first heated to a high temperature by utilizing the heat of the escaping gases in the stack. This air may also be mingled with a jet of steam, which decomposes into hydrogen and oxygen, the hydrogen serving by its combustion to assist in the elevation of the fire-box temperatures. By this system the admission of cold air is entirely avoided and a constant temperature can be easily obtained, since it does not depend on the ability of the fireman. In case of accident the fire can be instantly extinguished by giving a single turn to the

valve which cuts off the supply of fuel. The injury done by forced fires to the boilers is not to be feared, and high stacks are no longer a necessity, as the fire-box is operated under a sort of forced draft.—*American Engineer.*

Making Hard Coke.

Messrs. J. J. Fronheiser and C. S. Price, connected with the extensive works of the Cambria Iron Co., at Johnstown, Pa., are the originators of an improvement in coke manufacture by which coke of any degree of hardness may be turned out. In the manufacture of coke from soft coal in retort ovens, particularly in those constructed so as to save the by-products formed in the coking operations, the coke has the disadvantage of being more porous, softer, with more easily crushed cell-walls than when the same coal is coked in the ordinary beehive oven. This softer coke has the advantage of being easily acted on or dissolved, as it were, in the upper part of the blast furnace and cupola by the carbonic acid gas generated in the lower zones of the apparatus, which, taking up carbon from the coke, forms carbonic-oxide gas thus: $\text{CO}_2 + \text{C} = 2(\text{CO})$. Owing to the property of the carbonic acid of being readily converted into carbonic oxide in this manner at the expense of the solid carbon of the coke, it will require a greater quantity of such soft coke to furnish the same number of heat units in the hearth of the blast furnace or cupola than of the harder variety.

The object of this invention is to render the coke harder and denser, which is accomplished by first grinding the coal to a coarse powder and mixing it with a hydrate of lime (air or water slacked caustic lime) before it is charged into the coke ovens. The inventors have found that quite a number of solid substances, such as limestone, blast furnace spiegeleisen slag, fusible clays, etc., the waste lime and fluoride-of-sodium mixture obtained in the manufacture of soda from cryolite, etc., or other solid matter suitable for a flux in the blast furnace or cupola, will all answer this purpose. A suitable solid hardening substance is one which will satisfy part of the sulphur contained in the coal, will unite with the free silica, forming a silicate of the base, and by mechanical mixture will fill up the pores of the coke, thereby rendering it more dense. One great advantage gained by the use of lime or other basic material is that the excessive quantity used will serve the purpose of uniting with the free silica in the blast furnace or cupola charge to form a proper flux, and as substances containing any free silica will not do this, it is not desirable to use them. An additional advantage claimed for the mixing of the coal with lime before coking is that it unites with the sulphur, rendering it inert in the blast furnace and cupola.

Among the reasons for preferring caustic lime is its cheapness as compared with that of other suitable materials, and also its usefulness in the blast furnace or cupola as a base to unite with the silica of the charge for the formation of a slag. While limestone or carbonate of lime in their different forms of combination may be used, they have the disadvantage that their carbonic acid eliminated in the process of coking acts on the carbon of the coal in the formation of carbonic oxide, thereby wasting part of the carbon of the coal.

The inventors of the process, in their practice, grind the coal by any of the well-known methods which will reduce it to a coarse powder. They then add to this mass a fluxing material, preferably caustic lime, either in a dry state or in a wetted and pasty condition, mixing the same thoroughly, after which it is charged into the coke oven, as in the ordinary practice. There is an advantage in introducing into the cupola or furnace, in combination with

the coke, a fluxing material such as is needed in the metallurgical operation carried on therein, and this is effected in their practice, as the caustic lime or other fluxing material used is mechanically combined with the coke, filling up its cell-walls. It has been found that about 5 per cent. by weight of caustic lime mixed with the fine coal gives the best results. However, a larger quantity of lime can be added to coals containing more than 5 to 7 per cent. of ash.—*American Manufacturer.*

Cumberland Coal Shipments.

The shipments of coal from the Cumberland region for the week ended April 1 and for the year to that date have been as follows:

Companies.	Week. Tons.	Year. Tons.
Borden Mining Co.....	7,027.13	75,393.11
Consolidation Coal Co.....	16,691.10	208,728.13
Union Mine.....	3,012.01	45,356.15
George's Creek Coal & Iron Co.....	5,596.03	85,419.00
Swanton Mining Co.....	2,158.01	30,323.03
Potomac Coal Co.....	1,576.02	18,507.02
Franklin Cons. Coal Co.....	449.18	8,970.04
Piedmont Cumb. Coal Co.....		
Barton & George's Creek Valley Coal Co.....	3,714.17	49,076.05
Big Vein Coal Co.....	935.17	14,607.11
Anthony Mining Co.....	149.04	3,225.14
W. Va. C. & P. (Elk Garden Mines).....	8,017.11	78,407.15
Atlantic & George's Creek Coal Co.....	1,716.01	11,633.08
Davis Coal & Coke Co.....	1,838.00	19,835.00
Thomas Mine.....	2,116.08	25,428.03
Davis and Elkin Mine.....	2,097.14	22,419.18
Cumb. Coal Co. (Douglas Mine).....	1,163.00	11,873.00
Elk Garden Big Vein Mining Co.....	400.10	4,672.17
Hampshire Mine.....	1,133.10	13,222.07
Big Vein Coal Co.....		973.06
American Coal Co.....	10,113.08	77,066.13
Maryland Coal Co.....	6,892.13	56,467.02
New Central Coal Co.....	4,617.05	40,877.08
Total.....	81,467.03	.....
Previously.....	821,017.12	.....
Aggregate	902,484.15	902,484.15

COKE SHIPMENTS OVER WEST VIRGINIA CENTRAL & PITTSBURG RAILWAY.

Companies.	Week. Tons.	Year. Tons.
Davis Coal & Coke Co.....	1,374.00	16,486.00
Thomas Coke Ovens.....	212.03	3,112.03
Cumberland Coal Co.....	343.00	4,556.00
Total for week.....	1,929.03	.....
Previously for year.....	22,225.02	.....
Year to date.....	24,154.05	24,154.05
Same period last year.....		16,533.16

Decrease in Value of Coal-Tar Products.

The English journal *Industries*, in commenting on the decrease in the value of benzole, says that while last year 90 per cent. benzole was selling at 3s. 6d. per gallon, tar distillers are now obtaining only about one-third this sum. There can be no doubt that this falling off is due to the German manufacture of these products, since the shrinkage in value is accompanied by a considerable diminution in our exports of these commodities to Germany. Until recently, although England had lost, in a large measure, the manufacture of coal-tar derivatives, there was a good market for the crude products in Germany. The Hoffman-Otto coke ovens and Siemens generators in use in Germany, however, have changed all this. The number of ovens at work in Germany has been doubled during the last three years, and the extraction of benzine from the gas of these coke ovens by the Brunk system has been in progress now for about the same time. Germany has now, therefore, plant for supplying tar, ammonia and benzine, the greater portion of which formerly came from this country. The Semet-Solvay ovens in use in Belgium have also been considerably improved, and manufacturers in this country who put down this plant some years ago have not at present altered it to the improved form. At Nortwich Messrs. Brunner, Mond & Co. are erecting the new type of oven, and expect to obtain a better yield of both tar and ammonia.

Coal and Coke Notes.

A vein of coal estimated to be sixty feet thick has been discovered near Alpine, Texas, on State and school land leased by W. E. Lowe. A stock company composed of W. E. Lowe, A. S. Gage, Thomas McGee and W. Van Sickle has been formed to work it. They are all men of wealth and of untiring energy, and will rapidly develop the product.

THE first cargo of coal was received at Houston, Texas, last week by way of the bayou for the International Coal & Transportation Co., of which H. T. D. Wilson is president. The schooner Seavry brought 12,000 tons of coal from Mobile, which was taken by the Magnolia brewery. This is the first of numerous cargoes of Alabama coal which will come up the bayou.

THE Fuentes coal mine, near Eagle Pass, Texas, is being equipped with a complete mining outfit to turn out 200 tons daily.

THE exports of coal from Norfolk, Va., from January 1 to March 30, 1893, inclusive, as cleared by William Lamb & Co., agents at Lambert's Point, is as follows: Foreign exports 3558½ tons and coastwise 32,507 tons, making a total for the week ending March 30th of 36,055½ tons. Total amount to March 30th, 367,701½ tons.

THE biennial meeting of the Tennessee Coal & Iron Co. was held at Tracy City, Tenn., during the week and Mr. Jere Baxter, of Nashville, was elected president. The annual report of the company's condition shows a surplus after meeting fixed charges and the dividends on preferred stock.

THE annual meeting of the Dunn Coal Land Co., of Coeburn, W. Va., will be held at Lynchburg, Va., on the 18th inst.

THE Burkes Garden Coal & Coke Co., of Moss, McDowell county, W. Va., to which a charter was recently granted, owns considerable coal lands which it proposes developing and manufacturing coke. Operations are conditional upon the securing of a branch railroad to the property. Jos. S. Moss & Bro., of Elk Garden, Va., are the principal owners of the company.

A New Storage Warehouse in Baltimore

The flour and feed interests of Baltimore are rapidly increasing in magnitude, and the volume of this trade has made it a conspicuous feature in the business of the city. Its growth has necessitated greater and modern facilities for handling and, with a view to meeting its requirements and promoting its development, the directors of the Northern Central Railway Co. have decided to build in Baltimore a large hay-storage warehouse to cost \$20,000. It will be leased to a warehousing company to be formed in this city, which will also build a large warehouse for the storage of flour and other commodities. A terminal company will be formed to develop these interests and to afford improved facilities for the shipment of hay, flour and other merchandise.

THE Truck Growers' Association of Chat-ham county, Ga., held its spring meeting in Savannah on April 1. Among other matters discussed was that of securing freight rates and rapid transit for truck consigned to Eastern points. A committee consisting of Dr. R. G. Norton, J. D. Groover and T. H. Hindy was appointed to consult with the railroad officials relative to this. The ravages of the potato bug received considerable attention, and it was finally determined to use paris green to destroy them. It is expected that potato shipments will commence about May 10, and peas about April 15. The indications are that the truck crop this year will be a large one, as the spring has been a favorable one.

CONSTRUCTION DEPARTMENT.

WE PUBLISH, every week, a list of every new factory, of whatever kind, projected anywhere in the South; every railroad undertaken, and every mining company organized. This information is always fresh, and, by enabling manufacturers to correspond with the projectors of such enterprises before their supplies of machinery have been purchased, is of great value. Manufacturers will find it to their interest to read this department carefully each week.

* Means machinery is wanted, particulars of which will be found in "Machinery Wanted" columns.

In correspondence relating to matters reported in this paper, it will be a favor if it is stated that the information was gained from the MANUFACTURERS' RECORD.

ALABAMA.

Deer Park—Brick Works.—Baldwin & Gamble have begun the erection of brick works.

Montgomery—Planing Mill.—The Vesuvius Lumber Co. is erecting a new planing mill.

New Decatur—Pottery Works.—The Potters' Flint Co. has been organized with a capital stock of \$10,000 to make pottery out of flint. W. E. Skeggs is president; W. W. Hedges, secretary, and S. F. Toadvine, treasurer.

Pansey—Saw Mill, etc.—The Pansey Lumber Co. is putting in considerable new machinery.*

ARKANSAS.

Fort Smith—Dry-goods Company.—D. B. Pugh, J. T. Cleveland, Isaac Wolf and Lee B. Blumenthal have incorporated the Quinn-Pugh Dry Goods Co. with a capital stock of \$50,000.

Jonesboro.—The Jonesboro Realty Co. has been organized with a capital stock of \$25,000. W. T. Lane is president; Will W. Cate, secretary, and S. A. Warner, treasurer.

Little Rock—Fire-escape Company.—The Adjustable Fire Escape Co. has been incorporated with J. E. Biscoe as president; L. B. McDonald, vice-president, and C. E. Rice, secretary. The capital stock is \$4,000,000.

Little Rock—Saw Mill.—E. Miller has built a new saw mill.

FLORIDA.

Fort Meade—Phosphate Mines.—The Belle Phosphate Co. has leased lands near Fort Meade and will open phosphate mines. An equipment of machinery will be put in at once. This company organized with Dr. Hewitt, of London, England, as president, and J. H. Henderson, of New York, as secretary.

Fort Meade—Phosphate Mining.—The Virginia-Florida Phosphate Co. has recently put in new machinery.

Leesburg—Phosphate Mining.—W. V. Knott, of Leesburg, has sold 200 acres of phosphate lands to New Jersey parties who will open mines.

Ocala—Lime Works.—Boyd & Meffert have built lime works of seventy-five barrels capacity daily.

GEORGIA.

Atlanta—Dealers.—The Coleman, Burden & Warthen Co. has been incorporated to deal in shoes, etc. Their capital stock is \$100,000.

Atlanta—Factory.—Messrs. Flemer & Carlyle, architects, of Washington, D. C., are preparing plans for a Philadelphia capitalist for a factory to be erected at Atlanta, Ga., to be made of brick with granite trimmings, four stories high, 150x300 feet.

Atlanta—Furniture Manufacturing.—A co-operative furniture factory is to be started with a capital of \$20,000. J. T. Voss can give information.

Atlanta—Harness Factory.—The Atlanta Harness Manufacturing Co. has been formed. S. F. Knapp is manager.

Blackshear—Canning Factory.—The Blackshear Canning Factory has contracted for complete equipment.

Brunswick—Lumber Mills, etc.—N. Dixon and R. H. Everett have incorporated the Dixon & Everett Lumber Co. to operate mills, etc. The capital stock is \$20,000.

Cedartown—Bottling Works.—R. L. Jones has established bottling works.

Macon—Manufacturing, etc.—James T. Gant, John F. Toole, James K. Kinnion, Sidney J. Tay-

lor and W. J. Henderson have incorporated the Gant City Manufacturing & Improvement Co. with a capital stock of \$50,000.

Reynolds—Canning Factory.—B. H. Newsom contemplates starting a canning factory.*

Rome—Canning Factory.—G. W. Fleetwood, of Floyd Springs, will establish a canning factory at Rome.*

Sparta—Machine Shop.—W. M. Pooser is building the machine shop lately reported.

Tallapoosa—Dynamite Works.—The Southern Dynamite & Powder Co. has been formed to start dynamite works. M. S. Johnson is general manager, and L. P. Brown, business manager.

Thomson—Canning Factory.—R. E. L. Evans has organized a \$200 stock company to build a canning factory.*

KENTUCKY.

Carrollton—Telephone Company.—E. J. Hickey, J. W. Bryan, W. H. Glor and P. Nodler have incorporated the Telephone, Telegraph & Electrical Co. with a capital stock of \$500,000.

Louisville—Box Factory.—Robert Tyler and W. A. Haas have incorporated the Tyler Box Co. for operating saw mills and manufacturing boxes. Its capital stock is \$750.

Louisville—Dealers.—R. G. Darn, F. G. Jones and S. G. Hasson have incorporated the Louisville Building Material Co. for dealing in building materials. Its capital stock is placed at \$10,000.

Louisville—Real Estate.—The West Baltimore Land Co. has been incorporated with a capital stock of \$300,000 to deal in real estate, etc.

Louisville.—The Sanitary Odorless Co., capital \$3,000, has been incorporated.

Louisville.—The Kentucky Logging Co. has been incorporated with a capital stock of \$500,000.

Louisville—Machine Works.—The Sproull Wrench Co. has been incorporated to manufacture wrenches; capital stock \$50,000.

Louisville—Machine Works.—The Tobacco Machine Co. has been incorporated to manufacture machines; capital stock \$100,000.

Louisville.—The F. H. Gibbs Co. has been incorporated with a capital stock of \$50,000.

Louisville—Machine Works.—The Specialty Manufacturing Co. has been incorporated to manufacture machines; capital stock \$100,000.

Louisville—Publishing Company.—The Herald Publishing Co. has been incorporated with a capital stock of \$25,000.

Middlesborough—Brewery and Ice Factory.—Charles Schreiber, John G. Fritsch and Frederick W. Wolf have incorporated the New South Brewing & Ice Co. to manufacture beer and ice. Their capital stock is \$225,000.

Newport—Manufacturing.—The Wadsworth Watchcase Co. will erect a new factory.

LOUISIANA.

Bennettsville—Tannery.—Geo. Bennett intends to erect a tannery.

Crowley—Machine Shop.—W. R. Craig will erect a new machine shop.

Crowley—Rice Mill.—S. A. Pickett, M. Abbott, P. S. Lovel, J. A. Williams and others have incorporated the Pickett Rice Milling Co., Limited, with a capital stock of \$50,000.

Morgan City—Shingle Mill.—Messrs. Gilchrist, Coleman & Vinson will erect a shingle mill at a cost of \$25,000.

New Orleans—The Leon Queyurize Commission Co. has been incorporated with a capital stock of \$200,000.

New Orleans—Elevators, etc.—The Whann Dredge & Elevator Co. has been incorporated with a capital stock of \$10,000.

New Orleans—Artesian Wells.—The Planters' Well Co., Limited, has been incorporated to sink artesian wells with a capital stock of \$25,000.

New Orleans—The Landumley & Bondvusquie Printing Co., Limited, has been incorporated with a capital stock of \$5,000.

New Orleans—Real Estate.—The Real Estate Investment Co., Limited, has been chartered. The directors are Frank L. Gordon, Oliver J. Paul, Joa. W. Carroll and Charles Carroll; capital stock \$50,000.

MARYLAND.

Baltimore—Real Estate.—Chas. B. Reed, Robt. E. Diffenderfer, Jno. B. Reed and others have incorporated the Maryland Land Co. with a capital stock of \$10,000.

Baltimore—Wool Factory.—The Babylon Wool Co. has been incorporated by Richard M. Jobe, John J. Jobe, John W. Babylon, Wm. C. Codd and Geo. H. Dobson with a capital stock of \$50,000.

Baltimore—Shoe Manufacturing.—Albion J. Corning, William Painter, J. Q. H. Smith, F. L. J. Freeman and Rufus W. Applegarth have incorporated the Del Creder Boot & Shoe Co. to manufacture. The capital stock is \$10,000.

Carrollton—Canning Factory.—The Carrollton Canning Factory has contracted for complete equipment.

Coopstown—Canning Factory.—W. A. Dusham has contracted for complete equipment for canning factories.

Cumberland—Silk Mill.—The Business Men's Association is negotiating for the establishment of a silk mill by Northern parties.

Hagerstown—Increase Capital.—The Hancock Bridge Co. will increase its capital stock to \$10,000.

MISSISSIPPI.

Hickory—Woodenware Manufacturing.—E. J. Stevenson, D. F. Morgan and F. W. Hanner have incorporated the Stevenson Manufacturing Co. to manufacture woodenware generally. Its capital stock is placed at \$50,000.

Meridian—Sewerage System.—The city is negotiating for a sewage system. Messrs. E. J. Martin or Dr. W. W. Payne, of the sewerage committee, can give information.

Oxford—Canning Factory.—The Oxford Canning Co. has been incorporated with a capital stock of \$100,000.

West Point—Canning Factory.—A company with \$600 capital has been organized to start a canning factory.

NORTH CAROLINA.

Edenton—Saw Mill.—W. H. Brown is putting in new boilers and other machinery.

Goldsboro—Brick Works.—H. Weil & Bros. will establish brick works.*

Hickory—Electric-power Plant.—M. E. Thornton and associates contemplate building an electric-power plant on the Catawba river, two and a half miles from Hickory.*

New Berne—Barrel Factory.—A company has been organized with B. B. Neal, secretary and treasurer, to manufacture 500 barrels daily.

SOUTH CAROLINA.

Batesburg—Canning Factory.—Andrew B. Watson contemplates starting a canning factory.*

Charleston—Cider and Vinegar Manufactory.—W. Geisenheimer and Henry Williams will manufacture cider, vinegar, pickles, etc.

Cheraw—Cotton Mill.—C. W. Ingram intends to build a yarn mill.

Johnston—Machine Shop and Planing Mill.—Turner & Co. are erecting a machine shop and planing mill.

Orangeburg—Medicine Factory.—The Wannaker Manufacturing Co. is enlarging its medicine factory.

TENNESSEE.

Bristol—Tannery.—New York parties contemplate erecting a tannery in Bristol. The Pioneer Land Co. can probably inform.

Elmwood—Barrel Factory.—I. Snider has started a barrel factory.

Knoxville—Engine and Pump Works.—The Knoxville Engine and Pump Works have been formed with M. F. Caldwell as president, and a complete plant is now being built. Machinery has nearly all been purchased.

Union City—Creamery and Cheese Factory.—A creamery and cheese factory will be built.

TEXAS.

Abilene—Cottonseed-oil Mill.—A stock company is being formed to erect a cottonseed-oil mill.

Alpine—Coal Mines.—W. E. Laine, A. S. Gage, Thos. McGee and W. Van Cickle have formed a stock company to open coal mines near Alpine.

Belcherville—Cottonseed-oil Mill.—The company lately reported as formed to erect a cottonseed-oil mill has obtained charter as the Belcher Cotton Oil Co. with a capital of \$40,000. Incorporators are J. H. Belcher, A. S. Belcher, A. L. Gribble and A. D. Gribble.

Cleveland—Saw Mills.—Four new saw mills will be erected on the Houston & East Texas Railroad's extension to the Trinity river.

Columbia—Ferry Company.—William Anderson, of Chicago, Ill.; Albert Smith, of New York; G. B. Broadwater and Edward Denike, of Laredo, have incorporated the International Ferry Co. with a capital stock of \$5000.

Comanche—Cottonseed-oil Mill.—The Comanche Cottonseed Oil Mill Co. has let contract for the machinery for its oil mill.

Dallas—Land Company.—The Summit Town Lot Co. has been chartered with J. T. Trezvant, L. A. Pierce and B. E. Green as directors; capital stock \$50,000.

Dallas—Printing Works.—A. G. Wills, J. M. Skelton and A. L. O'Neal have incorporated the Dorsey Printing Co. with a capital stock of \$10,000.

Galveston—Channel Improvements.—A. B. Waloin and others, of Duluth, Minn.; F. B. and F. L. Davidson, of Galveston, and E. B. Fred-

erick, of Michigan, have incorporated the Texas City Improvement Co. with a capital stock of \$2,000,000. The company's purpose is to construct deep-water channel.

Georgetown—Cottonseed-oil Mill.—A \$30,000 stock company has been organized and has let contract for the erection of a cottonseed-oil mill.

Hillsboro—T. E. Littlefield, G. R. Bennett and I. Rosenbaum have incorporated the Littlefield Combined Gin Feeder & Suction Elevator Co. with a capital stock of \$100,000.

Jacksonville—Bottling Works.—W. A. Wimms has established bottling works.

Kaufman—Cottonseed-oil Mill.—A company is being organized to erect a cottonseed-oil mill.

La Grange—Ice Factory and Brewery.—John Schumacher, of La Grange; August Moser, of Houston, and William J. Lemp, of St. Louis, have incorporated the La Grange Ice & Beer Co. to manufacture ice, soda water and beer. Its capital stock is \$12,000.

Queen City—Canning Factory.—The Queen City Canning Factory has contracted for complete equipment.

Pecos City—Irrigation Company.—W. C. Mann, of Eddy, N. M., and Homer Powers and Agnes Powers, of Pecos City, have incorporated the Texas Irrigation Co. with a capital stock of \$10,000.

San Marcos—Cottonseed-oil Mill.—The Home Oil Mill Association has organized for the purpose of erecting a cottonseed-oil mill.

San Marcos—Cottonseed-oil Mill, Refinery, etc. Diffee & Schmidt will erect a cottonseed-oil mill, a refinery and a bottling factory. A fine site has been purchased, also a water power, for \$12,000.

Velasco—Brick Works.—George Isaacs, late of St. Louis, Mo., contemplates organizing a company to establish pressed brick works.

Wharton—Cottonseed-oil Mill.—Efforts are being made to organize a company to erect a cottonseed-oil mill.

Willis—Machine Works.—Henry Rembert has organized a company to establish works for the manufacture of cotton-cleaning machinery invented by him.

VIRGINIA.

Abingdon—Real Estate.—The White Top Company has been incorporated to deal in real estate; capital stock \$150,000.

Alexandria—Machine Works.—The International Machinery & Construction Co. has been incorporated to manufacture and sell brick kilns, driers and other machinery. J. K. Kemp is president; E. L. Smith, vice-president, and J. F. Kirby, secretary; capital stock \$100,000.

Blackstone—Cotton and Woolen Manufacturing. The Blackstone Textile Co. has been incorporated for the manufacture of cotton and woolen material; capital stock \$50,000.

Black Walnut—Canning Factory.—The Black Walnut Canning Co. has been incorporated for the purpose of canning fruits, etc. The capital stock is \$23,000.

Lynchburg—Medicine Factory.—The Specific Remedy Co. has been incorporated for the manufacture of drugs and medicines; capital stock \$25,000.

Roanoke—Bottling Works.—The Virginia Bottling Co. proposes to engage extensively in bottling.

WEST VIRGINIA.

Buckhannon—Lumber Boom.—J. E. Craddock and T. C. Arbogast, of Buckhannon; Elihu Hutton and B. L. Butcher have incorporated the Holly River Co. to construct lumber booms.

Charleston—Coal Mining.—Joseph Ruffner, Jas. T. Brown, A. W. Quarrier, Malcom Jackson and E. W. Knight have incorporated the Elk River Mining Co.

Dry Run—Saw Mill.—D. M. Liscomb will build a saw mill.

Elk Garden—Publishing Company.—The Mountain City News Co. has been organized.

Elm Grove—Coal Mines.—W. T. Chambers and others have incorporated the Elm Grove Coal Co. to mine coal with a capital stock of \$50,000.

Montgomery—Glass Works.—Jno. J. Walsh has contracted to establish a tank furnace for the manufacture of glass jars, bottles, etc. About sixty-five hands will be employed. Mr. Walsh has, together with E. M. Grant, R. E. Fast, Geo. C. Sturgiss and J. C. White, incorporated the Morgantown Glass Co. for the above purpose.

Parkersburg—Gas and Electric Plant.—The Parkersburg Gas & Electric Co., reported last week as chartered, succeeds the Parkersburg Gas Co., and is rebuilding the old plant complete and expects to add an electric plant.

Piedmont—Water Works.—The city will hold an election on April 27 to consider issuing bonds for water works. The mayor can give information.

Wheeling—Keg and Box Factory.—The Mears Keg and Box Factory, reported in this issue as burned, will be rebuilt.

Wheeling—Brewery.—The Smith Brewing Co. has been chartered with the following incorporators: M. E. Lally, A. E. Smith, W. H. Ramp, W. H. Moser and A. H. McDonnel.

BURNED.

Bell's Cross Roads.—Ferebee's saw mill.

Florence, S. C.—The Florence Electric-Light Works.

Wheeling, W. Va.—The Mears Keg and Box Factory.

BUILDING NOTES.

Alexandria, La.—Church.—The Baptists will build a church. Rev. W. C. Brown can give particulars.

Baltimore, Md.—Synagogue.—A new synagogue will be built for Har Sinai congregation. David Hutzler can be addressed.

Baltimore, Md.—Warehouse.—S. H. & J. F. Adams have contract for the four-story brick warehouse, 44x181 feet, to be built by C. F. & E. C. Swift.

Baltimore, Md.—Warehouses.—The Northern Central Railway Co. will build a large hay-storage warehouse to cost \$20,000. It will be leased to a company which will be formed, and which will also build a large storage warehouse.

Baltimore, Md.—School Building.—Contract has been let to Cornelius Sheehan for a new school building for St. John's Catholic Church.

Baltimore, Md.—Church.—A new edifice will replace the church of St. Barnabas Protestant Episcopal congregation lately burned. Rev. Joseph Fletcher is the rector.

Baltimore, Md.—Church.—A brick and stone edifice 65x165 feet, with two stone towers ninety feet high, will be built for the Holy Rosary Church. The estimated cost is \$30,000. Rev. Mieczyslaw Barbasz is the pastor and can give information.

Bramwell, Va.—Temple.—J. C. Jones & Co., of Basic City, have contract for the erection of a \$10,000 temple for the Masons. W. L. Reid, of Roanoke, is the architect.

Charleston, S. C.—Hall.—The Castle Hall Co. has been incorporated by W. B. Hollings, Wm. H. Thomas, A. H. Prince and others to build a hall for the Knights of Pythias. The capital stock is \$25,000.

Chattanooga, Tenn.—Church.—The members of the Congregational Church will build a new edifice.

Cumberland, Md.—Courthouse.—The plans of Wright Butler have been adopted for the new courthouse. It will be a two-story brick and stone building and cost about \$75,000.

Cumberland, Md.—Hall.—The Young Men's Christian Association has accepted the plans of McCallum & Ely, of Washington, Pa., for its new hall building, and bids will shortly be invited.

Dallas, Texas—Cathedral.—The plans of Sanguinet & Messer, of Fort Worth, have been adopted for the Episcopal Cathedral. It will be a stone edifice 80x150 feet.

Grantville, Ga.—Banks & Arnold will erect a \$5000 brick business building.

Greensboro, N. C.—Church.—The church to be built for the West Market Street Methodist Church will cost from \$25,000 to \$30,000. Plans are now being received. Rev. S. H. Hilliard can inform.

Hempstead, Texas—Courthouse.—Waller county will build a new courthouse at a cost of from \$25,000 to \$30,000. The location has not yet been settled upon, but will likely be in Hempstead. The plans will be decided upon on April 17 and contracts let. T. B. McDade can be addressed.

Hartley, Texas—Hotel.—The Hartley Immigration Association has arranged for the erection of a \$3000 hotel.

Hurtsboro, Ala.—Hotel.—T. S. Davis, of Montgomery, will build a hotel.

Hurtsboro, Ala.—Warehouse.—A company has been organized by Banks & Owens and others to build a warehouse.

Knoxville, Tenn.—School Buildings.—Contract for erecting the main building and five dormitories for the Holbrook Normal School, previously mentioned, has been awarded to the Knoxville Building Construction Co. at \$41,500.

Knoxville, Tenn.—W. C. Perry will erect a brick store building.

Lancaster, S. C.—Church.—The Baptists will build a new edifice.

Lexington, Ky.—College.—Contract will be let about April 15 for a building for the Lexington Business College. H. L. Rowe is the architect.

Logan, W. Va.—Jail.—The jail lately reported as to be built by Logan county will cost from \$8000 to \$10,000, and bids will soon be invited. Address J. B. Wilkinson.

Louisville, Ga.—Bank Building.—The Bank of Louisville will erect a new building.

Lynchburg, Va.—W. M. Poindexter, of Washington, D. C., has prepared plans for a business building for Joseph Cohn.

Macon, Ga.—D. B. Woodruff has prepared plans for a two-story business building 175x52½ feet for the Macon Hardware Co. It will cost \$15,000 and will be built by day labor.

Memphis, Tenn.—Tabernacle.—The building of a large tabernacle is contemplated. F. T. Edmondson can give particulars.

Mountain City, Tenn.—Courthouse.—The plans of W. Chamberlin & Co., of Knoxville, have been accepted for the new courthouse for Johnson county.

New Orleans, La.—Hotel.—The Stafford Mineral Springs & Hotel Co., H. Gardes, president, will erect a hotel.

New Orleans, La.—Hotel.—The Solaris heirs will build a seven-story brick hotel to cost \$100,000. Krost & Voegtle will assume its management.

Palm Beach, Fla.—Hotel.—The hotel to be built on Lake Worth by H. M. Flagler will be a 500-room structure. McGuire & McDonald are the builders.

Roanoke, Va.—Hall.—C. C. Wilson is preparing plan for the building to be erected by the Knights of Pythias. It will be a three-story structure 46x109 feet.

Roanoke, Va.—Church.—The members of St. Andrew's Catholic Church will build a new edifice 100x80 feet to cost about \$75,000. Rev. J. W. Lynch can be addressed.

Savannah, Ga.—Cathedral.—Bids will be received until May 1 for the completion of the towers and spires of the Catholic Cathedral. They are to be constructed of brick and terra-cotta, iron frame and copper work, with slate roof. Baldwin & Pennington, 44 South street, Baltimore, Md., are the architects and can be addressed.

Tampa, Fla.—Hotel.—E. B. Holt has contract and is the architect for the hotel mentioned in last issue as to be built by James H. Thomas. It will have fifty sleeping rooms, with electric call and return bells, lighted by electricity, etc. It is to be completed before October 1.

Taylor, Texas—Church.—The Catholics will build a \$10,000 church. No architect has been selected. Address C. M. Steel.

Terrell, Texas—Roundhouse.—The Texas Midland Railroad Co. will build a roundhouse.

Washington, D. C.—J. C. McGuire will erect an office building—Leon Desser is the architect; J. E. Knight, a \$30,000 residence, to have hot-water heating, etc.—Fleming & Carlyle are the architects.

Way Cross, Ga.—Hotel.—L. Johnson, Warren Lott, J. E. Wedley and others are interested in the project to build a hotel.

Wolfsville, Md.—Church.—The United Brethren will build a new church.

RAILROAD CONSTRUCTION.

Railroads.

Abbeville, Ala.—The right of way has been secured, and it is expected that contract for grading the Abbeville Southern Railroad will soon be let. The company was organized in October, 1892, with S. W. McLendon, of Thomasville, Ga., president, and W. E. Bradley, of Abbeville, secretary, to build a railroad from Abbeville to Dothan, on the Alabama Midland, twenty-eight miles distant. The intention is to give the right of way graded to the Plant system to complete and operate as a branch of the Alabama Midland.

Barboursville, W. Va.—The Chesapeake & Ohio Railroad Co. (office, Richmond, Va.) is reported as making surveys up the Guyandotte river.

Centreville, Ala.—J. E. Bozeman is locating an extension of the narrow-gage railroad known as the Welch's Mill & Centreville Railroad.

Conroe, Texas.—The Texas, Louisiana & Eastern Railroad Co. has completed about twenty-seven miles of its road and graded about fifteen miles more. It intends building to Baton Rouge, La.

Denmark, S. C.—All preliminary steps have been taken looking to the extension of the Manchester & Augusta Railroad (office, Wilmington, N. C.) to Augusta, Ga., as far as Denmark immediately. The company is now securing rights of way, and if this can be done without too heavy an expense work will begin at once, with the intention of completing the extension to Denmark by next winter. There will be 25,000 feet of trestle on the forty-five miles, about half of which will be temporary. There will be an iron bridge over the Santee river 600 feet long, and two other iron bridges of 100-foot span each.

Galveston, Texas.—George W. Cooley is surveying for an extension of the North Galveston, Houston & Kansas City Railroad to Houston.

Lake Charles, La.—P. H. Philbrick, chief engineer of the Kansas City, Watkins & Gulf Railroad, reports that the road is now being located from Bon Air, twelve miles from Lake Charles, to the Gulf.

Lake Providence, La.—The Providence Lumber Co. reports that a railroad will be built from Lake Providence to a point ten miles west. The town will vote a five-mill tax for ten years in aid of the project.

Lenoir, N. C.—The Caldwell Land & Lumber Co. will shortly let contract for building a thirty-mile railroad from Lenoir to its timber lands on Wilson's creek.

Lynn, Ark.—Surveys are reported as in progress for the extension of the Texarkana & Shreveport Railway (office, Texarkana) from Lynn to some point south.

Maplewood, Tenn.—The Maplewood Improvement Co. will build a 4½-mile railroad to be laid with 40-pound iron.*

Natchitoches, La.—The extension of the Natchitoches Railroad from Grand Ecore to Shreveport is proposed. L. Caspari can be addressed.

Sour Lake, Texas.—J. E. Newton is arranging for the building of a railroad from Sour Lake to Houston.

Standing Stone, Tenn.—The Nashville & Knoxville Railroad Co. (office Lebanon), which intends building its road to a connection with the Cincinnati Southern, is considering a proposition to construct its line to Spring City, striking that road there. It is proposed to use the twelve miles of road graded to Spring City by the Tennessee Central. This would cover about one-third of the distance between the point to where the Nashville & Knoxville is now graded and Spring City.

Swansboro, N. C.—J. A. Pittman reports that survey will soon be made for the Neuse & Swansboro Railroad. It is to be thirty miles long, and run from Swansboro to Riverdale, on the Atlantic & North Carolina Railway.

Waco, Texas.—T. M. Costello reports that an engineering corps will shortly be at work running the line of the Waco, Mooreville & Austin Railroad. The road will be built immediately to Rogers, on the Santa Fe, a distance of about fifty miles. The ultimate destination is the Gulf. Contracts will soon be awarded.

Street Railways.

Charleston, S. C.—A controlling interest in the Enterprise Street Railroad Co. will probably be secured by the Great Western Electrical Manufacturing Co. In such an event electricity would be adopted as the motive power on the lines.

Mobile, Ala.—The Mobile Light & Railway Co. has closed contract for the electrical equipment of its lines.

Tampa, Fla.—The Consumers' Electric Light & Street Railway Co. reports that it has built and in operation three and a half miles of electrical railroad and will shortly build about ten miles more.

Van Buren, Ark.—Robert S. Hynes has been negotiating with parties with a view to securing the construction of a street railway in Van Buren.

MACHINERY WANTED

If you desire to purchase machinery of any kind consult our advertising columns, and if you cannot find just what you wish, send us particulars as to the kind of machinery needed. We will make your wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. You will thus get all information desired as to prices, etc.

Boiler.—The city of Yorkville, S. C., will purchase a 54"x14' boiler. Address W. B. Moore, intendant.

Boiler.—The Chestertown Creamery & Ice Co., Chestertown, Ga., is in the market for a horizontal tubular boiler.

Boiler and Engine.—The Bellevue Canning Factory, Macon, Ga., will want boiler and engine. Address N. H. Smith, secretary and manager.

Brick Machinery.—H. Weil & Bros., Goldsboro, N. C., want to purchase machinery for making 25,000 to 50,000 brick daily.

Canning Factory.—McGaw & Smith, Washington, D. C., will purchase outfit for canning factory.

Canning Factory.—A. H. Wingo, Absalom, Ga., wants information regarding canning factory, cost of outfit, etc.

Canning Factory.—Henry O'Bleness, Athens, Ohio, wants information concerning canning, cost of machinery, etc.

Canning Factory.—Noah Robbins, Segina, Ga., wants information concerning canning factory, cost of machinery, etc.

Canning Factory.—B. H. Newsom, Reynolds, Ga., wants information concerning canning factory, cost of machinery, etc.

Canning Factory.—Andrew B. Watson, Batesburg, S. C., wants information concerning canning, estimates on cost of machinery, etc.

Canning Factory.—J. H. Palmer, Tennville, Ga., wants information regarding canning.

Canning Factory.—W. L. Abbott, Weatherford, Texas, wants information of canning factory, cost of machinery, etc.

Canning Factory.—Jno. A. Weems, Flora, Ala., wants information concerning canning factory, cost of machinery, etc.

Canning Factory.—R. W. Harris, Lauderdale, Miss., wants information on canning.

Canning Factory.—R. E. L. Evans, Thomson, Ga., wants a full outfit for canning 400 three-pound cans daily.

Canning Machinery.—Jno. L. Crittenden, Pine View, Va., wants information on cost of canning machinery.

Canning Machinery.—Harry Holman, Mt. Oreb, Ohio, wants information regarding canning, cost of machinery, etc.

Canning Machinery.—J. N. Roberson, Cribb, Ga., wants information on canning, cost of machinery, etc.

Canning Machinery.—The Bellevue Canning Factory, Macon, Ga., will want outfit for canning 20,000 cans daily. Address N. H. Smith, secretary and manager.

Canning Machinery.—D. Robinson, Robinson Spring, Ala., wants information concerning canning, cost of machinery, etc.

Canning Machinery.—R. H. Woodson, Reidsville, N. C., wants to purchase machinery for canning 2000 cans daily.

Canning Machinery.—G. M. Davis, Marble Hill Ind., wants estimates on outfit for canning 3000 cans daily.

Canning Machinery.—W. D. Fildes, Jenifer, Ala., wants to correspond with manufacturers of canning machinery.

Canning Machinery.—R. J. Bancom, Morven, N. C., wants information and cost of canning machinery.

Canning Machinery.—G. W. Fleetwood, Floyd Springs, Ga., wants information concerning canning, cost of machinery, etc.

Chair Factory.—George J. Page, Hartwell, Ga., is in the market for chair machinery.

Clayware Machinery.—C. P. Hudson, Paris, Tenn., wants machinery for the manufacture of jugs and flower-pots.

Coke Ovens.—Jas. S. Moss & Bro., Elks Garden, Va., will probably want coke ovens.

Conveying Machinery.—The Southern Brick Co. (O. W. Bentley), 182 Angier avenue, Atlanta, Ga., wants a conveyor to bring clay to a brick machine, a distance of about 300 yards.

Cracker Factory.—Information is wanted regarding cracker factory, cost of machinery, etc., by B. H. C., care of MANUFACTURERS' RECORD.

Drill.—D. S. H. Durst, Gonzales, Texas, will need a press drill.

Electric-light Plant.—F. P. Pendleton, mayor, Winchester, Ky., wants propositions for lighting the city (population 6000).

Electric-power Plant.—N. E. Thornton, Hickory, N. C., desires to correspond with contractors for electric-power plant.

Piour Mill.—N. D. Woody & Son, Prosperity, N. C., want to buy a roller process flour mill (new or second-hand).

Handle Machinery.—George J. Page, Hartwell, Ga., is in the market for handle machinery.

Lath Mill.—The Pansey Lumber Co., Pansey, Ala., wants a lath mill.

Lathe.—D. S. H. Durst, Gonzales, Texas, will need a lathe.

Mining Machinery.—Jas. S. Moss & Bro., Elks Garden, Va., will probably want coal-mining machinery.

Pipe, etc.—The city of Yorkville, S. C., will purchase at an early date 20,664 tons of 6 and 8-inch cast-iron pipe, standard weight, and four tons of 4-inch pipe, also fire-plugs and hydrants. Address W. B. Moore, intendant.

Planer and Matcher.—K. P. Hill, Louisburg, N. C., wants to buy a small planer and matcher.

Planer.—Miller & Lambert, Poplarville, Miss., want a four-side six-roll heavy planer, fourteen inches. (Second-hand will do.)

Pump.—The city of Yorkville, S. C., will purchase at an early date a compound duplex pump of 500,000 gallons capacity. Address W. B. Moore, intendant.

Rails, etc.—The Maplewood Improvement Co., Maplewood, Tenn., wants prices on 40-pound rails and other material for building a line four and one-half miles long.

Soap Machinery.—Thos. W. Tripp, Oxanna, Ala., wants a crusher and mixer and a soap pump.

Standpipe.—The city of Yorkville, S. C., will purchase a 70-foot steel standpipe with suction chambers for pump. Address W. B. Moore, intendant.

Stave Machine.—The Pansey Lumber Co., Pansey, Ala., wants a stave machine and stave bolter.

Water Works.—The date for receiving bids on the construction of a water-works system at Greenville, Miss., has been extended to May 2. J. M. Lee, clerk. (See adv.)

Wire and Hoisting Rope, etc.—Jno. W. Hindale, Raleigh, N. C., wants 1000 to 2000 feet of

1½-inch galvanized wire rope, second-hand; 200 to 300 feet of ½-inch steel hoisting rope, second-hand; derrick irons with wire ropes, pulley blocks, double sheave, for ½-inch wire rope.

Woodworking Machinery.—B. Crawford, New Decatur, Ala., will buy planers, resaws, mortiser, tenoner, oil lathe, stuker, etc.

Alexander McKay, of Eufaula, Ala., wants names and addresses of refrigerator manufacturers.

A. Von Lehe, of Walterboro, S. C., wants to correspond with wholesale dealers in chairs and beds.

Fite & Boston, of Resaca, Ga., wants machinery complete for a steamboat 8x18 feet (second-hand).

L. G. Sheppard, of Kansas City, Mo., wants the address of headquarters for moss.

James H. Thomas, Lock Box 37, Tampa, Fla., wants proposals for furnishing a 50-room hotel.

SOUTHERN FINANCIAL NEWS.

New Banks.

Camden, S. C.—The Bank of Camden contemplates increasing its capital stock from \$25,000 to \$100,000.

Dover, Tenn.—J. C. Steger, G. W. McElroy, E. T. Peck and others will organize a bank with a capital stock of \$25,000.

Hartsboro, Ala.—A bank will probably be started. H. L. Davis can give information.

Hillsboro, Texas.—It is expected that the Citizens' National Bank, lately referred to, will organize about April 15. C. A. Sullenberger, A. T. Rose and others are interested. The capital stock will be \$50,000.

San Marcos, Texas.—The Endowment Savings Co. has been incorporated by B. G. Neighbors, T. S. Diffey and Owen Ford. The capital stock is \$100,000.

Siloam Springs, Ark.—The Bank of Siloam has been incorporated with H. Tannehill, president, and R. S. Morris, J. H. Carl, Z. T. Couley, F. M. Axtell and J. H. Chittley, corporators. The capital stock is \$50,000.

Spartanburg, S. C.—The Colored Banking Association has been incorporated by P. G. Hammett, C. C. Lyles, H. B. Mayberry and others.

Union City, Tenn.—The Commercial Bank of Union City, lately reported as chartered, is the Bank of Union City reorganized. S. Waddell has been elected president; C. W. Miles, vice-president, and H. L. Elder, cashier. The capital stock is \$50,000.

Alexandria, La.—The District of Columbia Loan & Investment Co. has been chartered with William Mayse, president; John S. Swormstedt, vice-president, and secretary, D. P. Leibhart, all of Washington, D. C. The capital stock is \$100,000.

Amite City, La.—A branch of the Fidelity Trust & Loan Co., of Mobile, Ala., has been established with F. H. Drake, president.

Annapolis, Md.—The Farmers' National Bank has declared a dividend of 4 per cent.

Atlanta, Ga.—W. A. Gregg, R. J. Lowry, J. C. Kirkpatrick, Joel Hurt, H. E. W. Palmer, S. M. Iman and others are organizing a \$500,000 trust company.

Baltimore, Md.—The National Marine Bank has declared a semi-annual dividend of 3 per cent.

Baltimore, Md.—The Mercantile Trust & Deposit Co. has elected John Gill, president; W. W. Spence and C. R. Spence, vice-presidents; L. C. Fischer, secretary and treasurer; John McHenry, assistant secretary and treasurer; executive committee, Louis McLane, Andrew Reid, Bernard Cahn, John A. Hambleton and J. Wilcox Brown.

Charleston, S. C.—The State Savings Bank has declared a dividend of 5 per cent, and added \$200 to its surplus. John B. Reeves and Lee Loeb have been re-elected president and vice-president.

Columbus, Ga.—The Georgia Home Insurance Co. has declared a dividend of 3 per cent.

Crewe, Va.—The Nottoway Building & Trust Co. has been incorporated with a capital stock of \$150,000.

Dallas, Texas.—The Texas Loan & Realty Co. has been incorporated by Philo A. Tucker, S. P. Bossert and W. D. Simpson. The capital stock is \$40,000.

Fort Worth, Texas.—The Trinity Investment Co. has been incorporated by D. F. Bonner, G. P. Meade and George K. Williams. The capital stock is \$30,000.

New Orleans, La.—A branch of the Atlanta National Building and Loan Association of Atlanta, Ga., has been located in New Orleans with W. C. H. Robinson, president.

New Orleans, La.—The New Orleans City & Lake Railroad Co. has declared a quarterly dividend of \$1.75 per share.

Roanoke, Va.—The Homestead Building & Investment Co. has been incorporated with G. H. Coon, president; H. M. Darnall, vice-president,

and T. W. Goodwin, secretary. The capital stock is \$60,000.

Vicksburg, Miss.—The Vicksburg Hotel Co. has disposed of \$60,000 of its 30-year 6 per cent bonds.

TRADE NOTES.

The Berlin Iron Bridge Co., of East Berlin, Conn., has received the contract for the new rolling mill to be built by the New Haven Rolling Mill Co. at New Haven, Conn.

The Gleason & Bailey Manufacturing Co., of Seneca Falls, N. Y., lately secured a contract for another patrol wagon from the Board of Underwriters of New York city. The company is building a wooden hook-and-ladder truck for the town of Gowanda, N. Y.

Mr. Edward Muller, designer of the "Muler" lathe, has accepted the superintendency of the Lodge & Davis Machine Tool Co., Cincinnati, Ohio, builders of standard machine tools. He takes the place formerly occupied by Mr. Wm. Lodge with that company.

M. A. De Lew, of the firm of De Lew & Bailey, electrical and mechanical engineers, 213 E. Lombard street, Baltimore, has received the degree of LL. B. from the Baltimore University of Medicine and Law. Mr. De Lew will commence practicing at the bar, but will still continue his connection with the above firm.

A SPECIAL feature of the business of Hopkins & Schley, of Savannah, Ga., brokers and manufacturers' agents, is the handling of a full line of building supplies. Mr. Schley, of this firm, is recognized as well posted on all matters pertaining to this branch, and the concern is building up an extensive patronage in this direction.

The contracts for supplying the machinery for the Carrollton (Md.) Canning Factory, Queen City (Texas) Canning Factory, Blackshear (Ga.) Canning Factory and the canning factory of W. A. Dusham at Coopstown, Md., were secured by A. K. Robins & Co., of 724 East Pratt street, Baltimore, Md., manufacturers of canning machinery.

FRITH's bone mill at Charleston, S. C., is offered for sale. The property includes a complete plant for grinding bone. The product of this mill—bone meal—has an established reputation as a high-grade fertilizer, and the business is on a paying basis. Mrs. B. G. Frith, 150 Spring street, Charleston, S. C., can be addressed for further particulars.

A 36-INCH Venturi meter manufactured under the patents of Clemens Herschel, C. E., New York city, has been shipped to Chicago by the Builders' Iron Foundry, of Providence, R. I. This meter will be placed in the extreme southeast corner of the grounds and will measure the entire water supply of the Columbian Exposition—about 24,000,000 gallons a day. The recording apparatus will be exhibited in the adjacent building of the sewage-cleansing works.

A COMBINATION ice-making and refrigerating plant was lately shipped to Collins & Lazier, Seattle, Wash., for the Arlington Hotel in that place. It was built by the Remington Machine Co., of Wilmington, Del., builders of ice-making and refrigerating machinery. This concern also secured the contract for supplying the refrigerating machinery for the new chocolate works of S. Leon Rosskam & Co., Philadelphia, Pa., and for changing from the absorption to the compression system in the plant of the Chestertown Creamery & Ice Co., Chestertown, Md.

THE corporate name of the Weisel & Vilter Manufacturing Co., of Milwaukee, Wis., has been changed to the Vilter Manufacturing Co. This concern has built up an extended reputation for its Corliss engines and machinery for brewers and bottlers. Under the new arrangement the prestige of its machinery will no doubt be enhanced and its popularity broadened out. Among late contracts closed by this concern may be noted one with the Wisconsin Bridge & Iron Co., North Milwaukee, Wis., for an improved 14x30 Corliss engine, and with the Green Bay & Fort Howard Gas & Electric Light Co. for a 22x38x42 cross compound condensing Corliss engine.

THE automatic oil-burning engines manufactured by the Shipman Engine Co., of Boston, Mass., are meeting with substantial recognition in all quarters. The company reports business very good, with the indications that the spring trade will exceed in volume any previous year. Among late orders are one from V. V. Haynes, of Orange Bend, Fla., for a six horse-power marine engine only; through S. L. Mitchel, agent in New Orleans, an order for a six horse-power engine, stationary, and one horse-power, stationary; T. A. Noble, Seattle, Wash., six horse-power stationary engine; L. A. Champion, Black Hall, Conn., six horse-power marine engine; B. L. Bragg Co., Springfield, Mass., six horse-power stationary; J. Dorsch & Sons, Milwaukee, Wis.,

six horse-power stationary, and a one horse-power stationary for Thos. Basshor & Co., Baltimore, Md.

THE Imhauser system of automatic time detectors for night watchmen in factories and other business establishments has made its way into hundreds of important mills throughout the country. Among its special features are its twelve to twenty-four different keys, its safety-lock attachment, a guard on the watch which prevents the watchman from tampering with it successfully, and its perfected marking apparatus, which contains but one traveling spring-card operating automatically, so that after the marking key is inserted to punch the figures it returns to its original position and cannot be controlled by the watchman for the purpose of deception. Every safeguard that ingenuity can devise seems to be utilized in the manufacture of these improved watchman's clocks. There is apparently no opportunity for false entries or any other method that could be used by the watchman to elude his prescribed duty.

The Riehle Bros. Testing Machine Co., Philadelphia, Pa., report the following very recent orders: American Telephone & Telegraph Co., New York, one 30,000-pound vertical screw-power testing machine; Syracuse water board, Syracuse, N. Y., one Riehle United States standard 1000-pound cement testing machine complete with molds, sieves, mixing table and special appliances; Metropolitan West Side Elevated Railroad Co., Chicago, Ill., one 1000-pound United States standard cement testing machine, with worm gear, rubber-pointed grips and sundry special appliances; Leeland Stanford, Jr., University, Palo Alto, Cal., one 20,000-pound vertical screw-power testing machine, with indicator; Chicago, St. Paul, Minneapolis & Omaha Railway Co., St. Paul, Minn., one 150,000-pound screw-power testing machine, with Vernier poise beam and tools for tensile, compression and transverse strains; Maine State College, Orono, Me., one 60,000-pound vertical screw-power testing machine complete; University of California, Berkley, Cal., one 5000-pound transverse testing machine, with indicator for elastic limit; Madison Car Co., Madison, Ill., one 5000-pound transverse testing machine, with indicator; Ewart Manufacturing Co., Indianapolis, Ind., one 20,000-pound horizontal screw-power testing machine; L. Hilgartner & Son, Baltimore, Md., one marble basin-hole cutter; A. Flambond Manufacturing Co., Chicago, Ill., one 3000-pound transverse testing machine, with indicator; Gillett-Kertzog Manufacturing Co., Minneapolis, Minn., one 5000-pound transverse testing machine, with indicator, for testing specimens forty-eight inches long, and other smaller orders.

TRADE LITERATURE.

THE 1893 calendar of Merchant & Co., Philadelphia, Pa., is a bright and attractive conceit.

"HANDLE MACHINERY" is thoroughly treated in a pamphlet bearing such a title and published by the Trevor Manufacturing Co., of Lockport, N. Y. It is known as catalogue B, and covers the extensive line of handle machinery manufactured by this concern. It is fully illustrated, and the reading matter clearly demonstrates the salient good points of the different machines.

AN illustrated catalogue has just been issued by the Henry Martin Brick Machine Manufacturing Co., of Lancaster, Pa. A well-executed engraving of Mr. Henry Martin, the widely-known inventor of modern brick machinery and founder of this company, ornaments one of its pages. The latest improved steam and horsepower brick machines are shown and explained.

AN 88-page catalogue of convenient size comes from Berger Bros., of 227 Arch street, Philadelphia, Pa., manufacturers of tinsmiths' hardware and roofers' supplies. The publication well covers the many and various articles that are in use in these trades. It is profusely illustrated, and where necessary, full explanations accompany the cuts. The discount sheet for 1893 of this firm is enclosed with the catalogue.

THE Thomas direct steam self-packing cotton press and the Thomas patent cotton elevator system are described and illustrated in a catalogue of neat appearance issued by the Thomas Manufacturing Co., of Little Rock, Ark. A list of users covering the States of Alabama, Arkansas, Georgia, Indian Territory, Louisiana, Mississippi, Missouri, North and South Carolina, Tennessee and Texas, numbering over 800, is the best evidence of the merits and usefulness of the company's machines.

"BRICK MACHINERY" is the title of a pamphlet received from J. C. Steele, of Statesville, N. C. It illustrates and describes the Steele brick machines, clay cars, winding drums, brick trucks, etc. The aim of the manufacturer is to place on the market a line of machinery built with a special view of supplying the demand for practical and substantial machines, and for the full worth of the money invested. His success in carrying out this idea is indicated by the many commendatory letters he receives from patrons.

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